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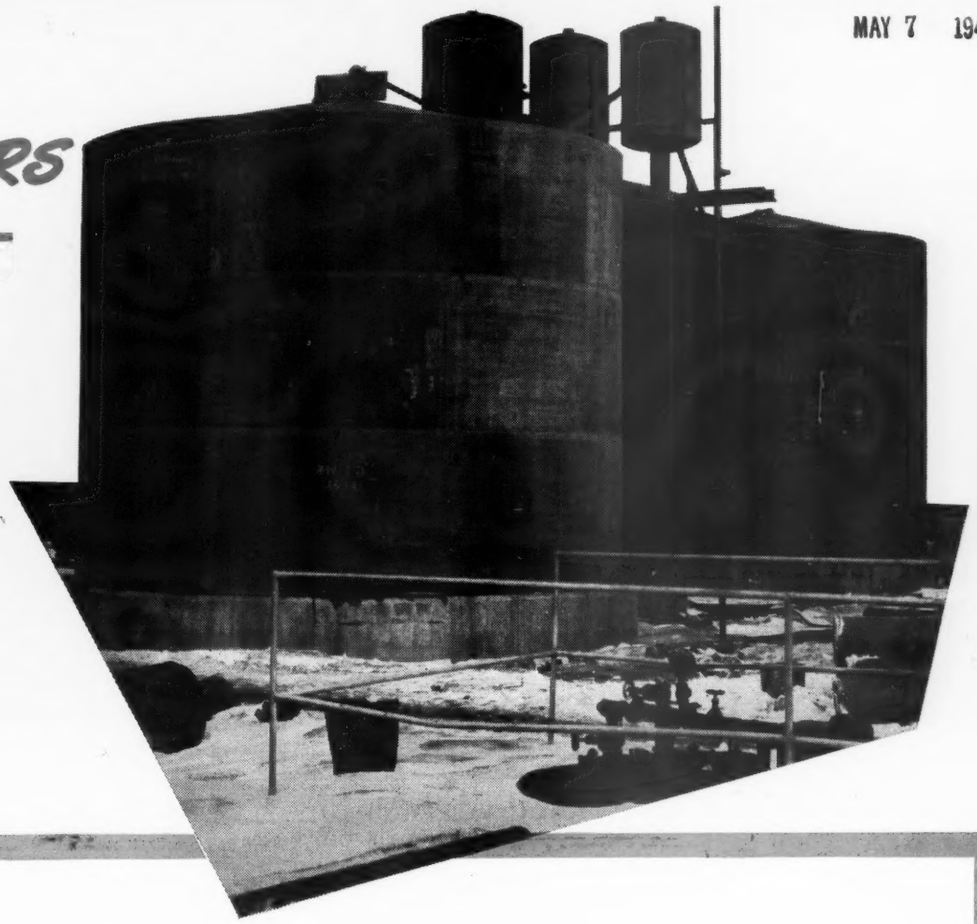
BYERS WROUGHT IRON gives these Washout tanks longer life expectancy



When the "Nickel Plate" needed a new Washout Tank at its Frankfort, Ind., yards, the Engineering Department took steps to avoid excessive repairs and assure maximum service life. Wrought iron plate was specified both for the 16,000 gallon Washout Tank, and the 26,000 gallon Filling Tank. The installation was handled by National Boiler Washing Company; Hammond Iron Works fabricated the tanks.

This is by no means a new application for wrought iron. A number of similar installations have been made over a period of years, by various railroads. Even without these, there would be ample experience data to guide the careful specifier, in the records of old wrought iron water tanks that have served for 40 years and more. One, located near the seashore, was a 60 year veteran at last report.

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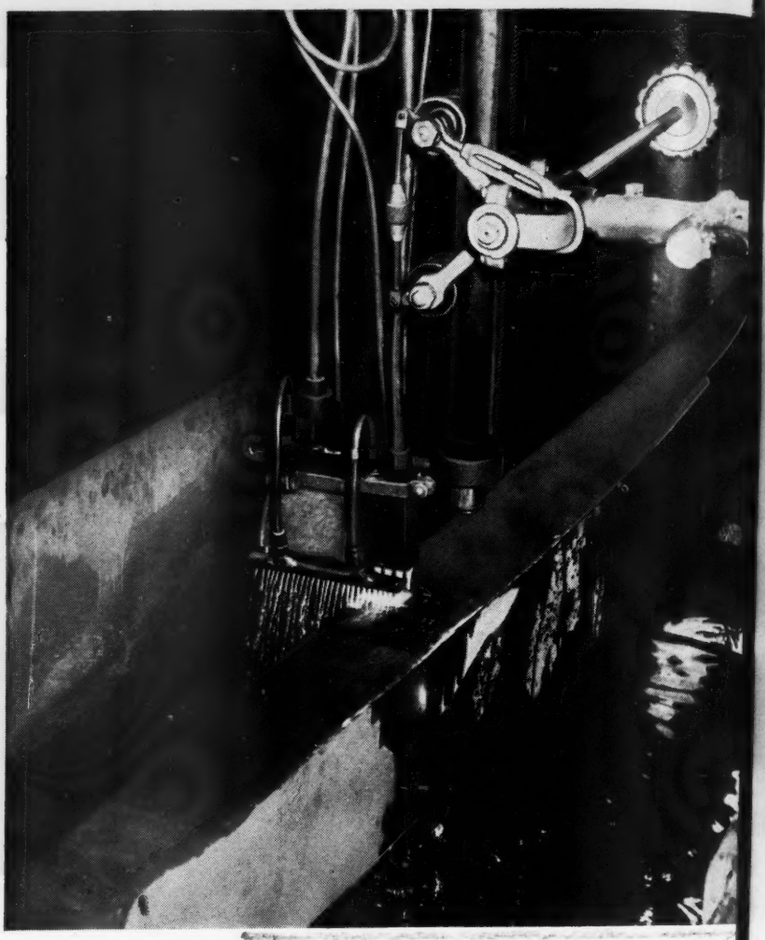

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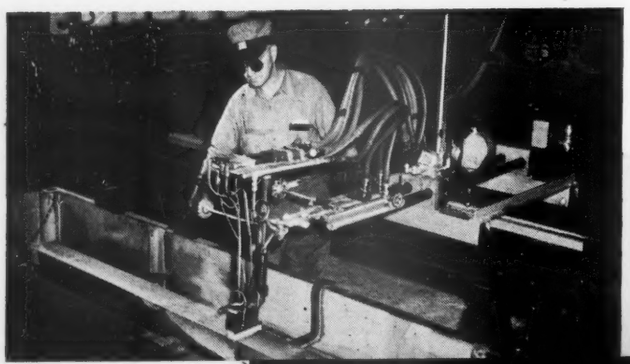

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Railway Age

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Vol. 120 — May 4, 1946 — No. 18

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING—CLEVELAND 13: TERMINAL TOWER—SEATTLE 1: 1033 HENRY BUILDING—SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806—LOS ANGELES 14: 530 WEST 6th STREET—DALLAS 1: POST OFFICE BOX #1808.

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In This Issue

Page

Great Northern Buys Low-Floor Flat Cars ***907***

These 70-ton A. C. F. cars built of welded Cor-Ten steel weigh 50,120 lbs.—are 3 ft. 7 in. above the rail and 52 ft. 8½ in. long.

Wood Preservers Meet at Cincinnati ***909***

Spirited technical session climaxed by the adoption of resolution deprecating socialistic tendencies and calling for equal rules, regulations and taxes for all types of enterprise.

Economic Facts Pictured for Employees ***918***

In its third annual report to employees the New York Central uses pictures and graphs to show the employees' share in its earnings. In the light of *Railway Age's* employee opinion survey, information was added to demonstrate the favorable position of subsidized competition, and the relationship of the railroad's payroll to its dividends.

EDITORIALS

The Railway Labor Act Is Flouted Again 901
Factors Affecting Economics of Welding 902
Action Demanded if Railways Want College Men 903
The Wheat and the Chaff 903

GENERAL ARTICLES

Availability of Steam Locomotives, by J. O. Converse 904
William Carter Dickerman Dies 906
Great Northern Buys Low-Floor Flat Cars 907
Wood Preservers Meet at Cincinnati 909
Over the Mountain with Diesel-Electrics 913
D. T. & I. Tests Radio in Detroit 916
Economic Facts Pictured for Employees, by C. R. Dugan 918
Preventing Newsprint Damage 919

GENERAL NEWS **921**

WITH THE GOVERNMENT AGENCIES **927**

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

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CONTROL

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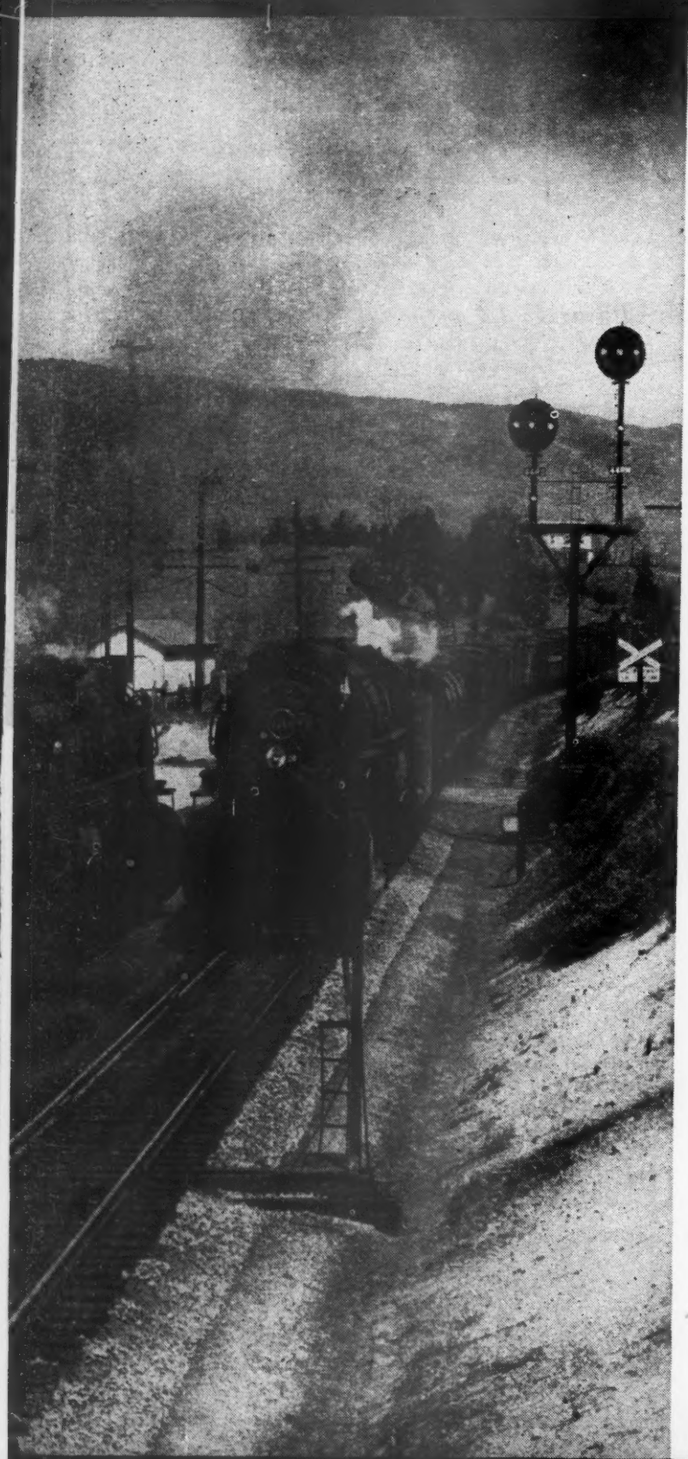
ANY NUMBER OF FUNCTIONS
FROM ANY SELECTED POINT
OVER A TWO-WIRE MULTIPLE LINE WITH



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The Week at a Glance

AN EASY CHOICE: If the regulatory philosophy of the Department of Justice prevails, Judge Fletcher has told the Senate committee considering the Bulwinkle bill, the Interstate Commerce Commission's role in rate-making will be definitely secondary to that of the anti-trust division and the courts. As reported in the news pages this week, even the joint effort of the railroads in asking for a general freight rate increase is in his opinion an action of the type Wendell Berge and his associates find objectionable. Senator Wheeler wondered whether the railroads had thought things through in arguing that the commission should have still more power than it has already, but Judge Fletcher's concern over this prospect was not of the same order of magnitude as his fear of the possible consequences of the railroads' coming under the supreme jurisdiction of the Justice Department's zealous lawyers.

●

OUT-OF-SERVICE TIME: In considering means to insure maximum availability of steam locomotives it may be necessary to measure the value of the engine in service against the cost of improved maintenance facilities, J. O. Converse of the M. & St. L. points out in a paper abstracted herein. But reduction of out-of-service time, within the limits of the facilities provided, is a responsibility of inspectors and supervisors which can best be discharged, he points out, through cooperation, vigilance in preventing conditions that make frequent repairs necessary, unrelenting emphasis on thorough lubrication, and constant attention to correct adjustments.

●

FACTS IN PICTURES: Charts and diagrams have been used by the New York Central in its annual report to employees to inform them of the huge share of wages in the road's total income and of the small rate of return earned by the road in comparison to what the recent *Railway Age* survey of employee opinion has shown employees consider a fair and reasonable profit. An article in this issue by C. R. Dugan shows also how the report makes it clear that the railroad, paying its own way, is engaged in a difficult competition for business with other forms of transportation that enjoy government subsidies.

●

BEFORE IT IS TOO LATE: Already $40 billion of government (i.e. tax-payers') money has been put into transportation facilities that earn no return on the investment, in competition with privately-financed, tax-paying facilities that cost $45 billion, according to Congressman Harris of Arkansas, whose discussion of this matter before a U. S. Chamber of Commerce meeting this week is reported in the news pages. If Congress cannot work out a formula to allow private capital invested in transportation to earn a fair return in the face of such subsidized competition, he declared, nationalization of transportation is a logical consequence. Apart from the disastrous effect on transportation to be expected from nationalization is a potentially still more serious result—the addition to the government payroll of all transportation employees, the political effects of which could be revolutionary.

●

LOW-FLOOR FLATS: A description appears herein of the Great Northern's new 70-ton flat cars. Cor-Ten steel is used for the structural shapes, plates and bars, in all-welded construction, and the design permits a floor height only 3 ft. 7 in. above the rail.

●

REWARD FOR DEFIANCE: President Truman might salvage the Railway Labor Act if he should put the moral prestige of his office behind the recent decision of the "fact finding" board which the engineers' and trainmen's unions have rejected. If he should follow the example of his predecessor, on the other hand, peace in the railroad industry will be secured, not by the operation of the processes of that statute, but by forcing the railroads to yield more to their employees than the "emergency board" has found them entitled to. By such concessions hard-boiled and selfish union leadership is placed at an advantage, at least in the view of a substantial segment of the membership, over the more conservative and social-minded leaders, this issue's leading editorial points out. Thus the government puts a premium on extravagant demands, on defiance of legislation designed to resolve labor-management disputes without strikes. One result of this policy of government is the threatened invasion of the railway field by unions which have grown to power under ruthless, dictatorial leadership. Another result is the ever-greater drain on railroad resources which has been the price of such peace as has been secured. Whether the voters will register positive disapproval of such governmental policy toward the unions before the railroads' resources are wholly exhausted is a disturbing question.

●

RATE ACTION: The Interstate Commerce Commission begins hearings next week on the railroads' petition for authority to effect freight rate increases May 15 on one day's notice. The only issue to be considered at this time is whether an immediate rate increase should be permitted, pending full hearings on the roads' need for more revenues to meet expense increases resulting from higher material prices and wage rates. As reported in the news pages this week, the Office of Price Administration and various shipper organizations oppose such prompt relief for the carriers, preferring to have the commission follow its regular procedure of hearings, arguments and consideration before any increases are authorized. Not being faced with the responsibility of finding the money with which to pay the higher prices and higher wages that government policies have brought about, the O. P. A. considers the railroads' appraisal of their future prospects "pessimistic," and implies, oddly enough, that it will be the railroads' fault if the "battle against inflation" is lost.

DIESELS IN THE CASCADES: Measured in ton-miles, freight traffic on the Northern Pacific's Western lines in the first half of 1945 was very nearly double the comparable 1940 volume. The motive power employed before the war, of course, was inadequate for the increased load, and as it was not practicable to rebuild extensive portions of the line in the Cascade mountains, particularly under war conditions, it was decided to use 5,400-hp. Diesel-electric road freight engines in this territory. An illustrated article in this issue outlines the operating methods employed in this district of heavy curvature and adverse grades, running up to 2.2 per cent. With the new power the average gross tons per train and average train-miles per hour were increased substantially, while helper movements were reduced.

●

WOOD PRESERVERS MEETING: Departing from its usual practice, the American Wood-Preservers Association, meeting in Cincinnati last week, adopted by a substantial majority a resolution condemning the trend toward tax-exempt, subsidized government corporations in competition with private business. Recommendations included in many of the technical reports presented are briefly outlined in the article herein reporting the proceedings. Methods of treating laminated wood, impregnation of plywood, fireproofing, preservatives for marine piling, and wood conservation research are among the subjects discussed in the reports.

●

"SATELLITE" STATION: To insure uniform coverage in engine-to-yard-office two-way radio communication throughout the length of an industrial area in the vicinity of Detroit, the Detroit, Toledo & Ironton has installed a transmitter-receiver set at its Flat Rock yard office and another at Dearborn, 14 miles distant, connecting the two by 189-kc. carrier current on pole lines already in place paralleling the track. The method of operation using this "satellite" station is described in an illustrated article this week. Tests of the communication equipment were made in this area because many possibly adverse conditions prevailed, among others the presence of overhead steel-reinforced concrete arches along 10 miles of the line. The very high frequency FM transmission and reception were not affected at these points.

●

NEWS IN BRIEF: Specially designed one-purpose cars will hold business on the railroads that otherwise may go elsewhere, says E. G. Plowman of U. S. Steel. . . . The commission has directed the Seaboard Air Line and Atlantic Coast Line to go ahead with extensive block signal installations. . . . Harvard Business School's Professor Cunningham retires June 30. . . . The Illinois Central has placed orders for Chicago-St. Louis streamliners. . . . Orders for Diesel-electric locomotives placed by the New York Central total 109,000 h.p. . . . The North Western has made General Gray its public relations vice-president.

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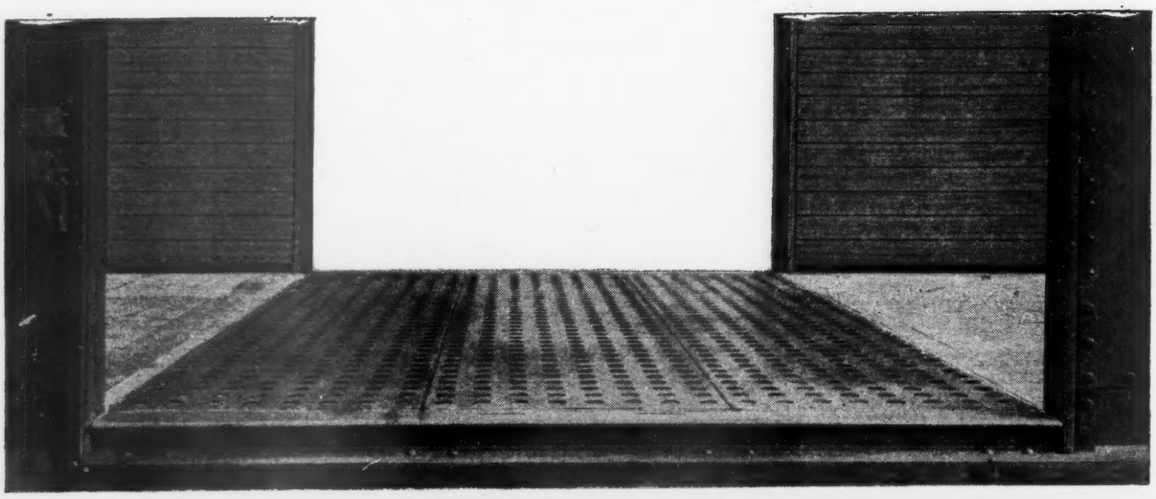

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RAILWAY AGE

The Railway Labor Act Is Flouted Again

To all who have eyes to see, events are once more demonstrating that the Railway Labor Act is not answering the problem of industrial peace on the railroads. If the threatened strike of members of the Brotherhood of Locomotive Engineers and Brotherhood of Railroad Trainmen, scheduled for May 18, is averted, the preservation of the peace cannot honestly be credited to the Railway Labor Act, because the resources of that Act have already been exhausted—and a strike call has been issued. If a strike should not ensue, its avoidance will have to come from negotiations following a pattern wholly different from that prescribed in the Railway Labor Act.

In essence, the Railway Labor Act is a statute providing for the judicial settlement of union-management disputes which cannot be resolved by direct negotiation or mediation. Since there is no extensive body of law or generally accepted tradition to determine with any degree of exactness what constitute "fair" wages and working conditions, it follows of necessity that "fact-finding" is a judicial process only in its elementary stage of development. Having few definite and generally accepted principles to govern them, the "fact-finders" have perforce to be guided by their own personal inclinations; by the general "climate" of public opinion; and by the relative earnestness or truculence of the contending parties. To recognize this condition is no derogation of "fact-finding." A similar situation must have existed at the birth of any system of judiciature, and persisted until long experience had developed a body of tested and accepted principles—enabling judges, at length, to decide cases by applying the law rather than by inventing it.

Coercive Enforcement Not Desirable

With the judicial process of settling labor disputes still in the kindergarten stage, it is doubtless not yet desirable that "fact-finding" decisions should be given the weight of full-fledged law, and be coercively enforced. With a meager store of tradition and principles to guide them, "fact-finders" *could* make mistakes. It is not wise to arm even a serious-minded child with a machine gun. On the other hand, unless *some* "sanctions" are placed in the hands of the "fact-finders" to lend weight to their decisions, they can make little more effective contribution than a debating society to the avoidance of industrial warfare.

The foregoing considerations are given potential effect in the Railway Labor Act. "Fact-finding" boards appointed under the Act were expected to have the moral support of the President of the United States behind them. The President appoints the members of these boards—presumably because he has confidence in their wisdom; and the intention of the Act is that "fact-finding" decisions should have the support of public opinion, led by the President, which should usually be strong enough to induce the contending parties to accept the "fact-finders' " recommendations.

Presidential Nullification

The Railway Labor Act might have worked out to prevent industrial strife on the railroads, as its framers intended, if the President of the United States had performed his duty in accordance with the spirit of the Act. As is less widely known than it should be, however, President Roosevelt late in 1941 blandly did nothing to support his "fact-finding" board which brought in a wage increase decision for the railway unions which they refused to accept. Instead, he persuaded the members of the board to stultify their work as judges by acting as intermediaries to wheedle the railroads into yielding more to the unions than, as "fact-finders," they had decided the employees deserved. Since that time the Railway Labor Act has made little if any contribution to industrial peace on the railroads. Peace has been purchased by the railroads by making concessions to the unions in excess of those to which "fact-finders" have determined they are entitled.

In the 1943 wage disputes President Roosevelt destroyed what little prestige remained to the "fact-finding" process: first, by permitting his director of economic stabilization to veto a "fact-finders' " wage award of an 8-cents-an-hour increase as too generous; and, second, by allowing the same official later to approve an increase averaging more than 9 cents, arrived at by negotiation undertaken after the processes prescribed by the Railway Labor Act had been nullified.

All of the standard railway labor organizations except the B. of L. E. and B. of R. T., by their acceptance of arbitration in the recent wage cases, evidenced their desire to reestablish orderly negotiation and the peaceful processes of the Railway Labor Act—while the two non-conforming unions are demanding a larger reward for their defiance than peaceful methods have obtained the other organizations. President Truman might salvage the Railway Labor Act if he would put the moral prestige of his office behind the decision of his "fact-finding" board, assuring the railroads that the govern-

ment would protect railroad property and employees if the carriers should seek to replace those employees who might strike against the "fact-finders'" decision. Unless he does this, or in some other manner attaches some opprobrium to defiance of his "fact-finding" boards, it is difficult to see how the poor old Railway Labor Act can survive as anything more than a polite fiction.

Donald Richberg, formerly attorney for the railway brotherhoods and one of the principal authors of the Railway Labor Act, has in recent speeches called attention repeatedly to the fact that, under present government policies, tough and selfish union leadership is placed at an advantage over those leaders who show some concern for the public welfare. As long as the government does nothing whatever to discourage the union leaders who defy its tribunals—and who are permitted to get more for their members by being rough than can be secured by the law-abiding and more conservative leaders—it is plain to see that peaceable and social-minded labor leaders will have an increasingly difficult time in holding on to their jobs.

A Premium Put on Defiance

Indeed, it seems highly probable that threatened—and to some extent actual—invasion of railway labor by "outside" unions noted for their ruthless leadership may account for the unwillingness of some of the standard railway organizations to abide by the peaceful processes prescribed in the Railway Labor Act. If the government is going to countenance and favor union leadership regardless of what its behavior may be, then it is likely that standards of behavior will become pretty strenuous. It is not organized labor itself, but government policy toward it, which is putting a premium on extravagant demands and upon extravagant behavior by union leaders.

Meantime, on the railroads, since 1941 it is not the Railway Labor Act that has so far kept the peace—but the willingness of the railroads to purchase peace by concessions to truculence, more generous even than those which New Deal tribunals have been willing to grant to employees. It remains to be seen whether railroad resources will hold out long enough to avoid conflict by this expensive device until the electorate makes up its mind that it has had enough of the type of union leadership which present government policy places in a dominant position.

Factors Affecting Economics of Welding

In the fabrication of new cars and locomotives, and in the repair or reclamation of old car or locomotive parts, welding has proved to be a "tool" that has inherent advantages, both engineering and economic. Because of these inherent advantages several factors affecting the cost of welding either are not generally given the attention they deserve or are not fully appreciated.

Eight of these factors were discussed in a paper prepared for the 1945 annual meeting of the American Welding Society by Walter J. Brooking, director of testing and research, R. G. LeTourneau, Inc. Of the many factors affecting the economics of welding these eight were considered especially important and also so general in nature as to be universal problems in welded construction. While their influence in railroad welding varies with the nature of the work, all of them are worth studying because of their cumulative effect on welding costs and because it is so easy to specify welding in railroad shops and enginehouses without specifying how, how much, and where.

Bad Practices Multiply Expense

The factors analyzed by Mr. Brooking are: (1) Design to reduce the amount of weld metal; (2) plan use of material to reduce scrap; (3) use setting-up fixtures to standardize structures; (4) use positioning fixtures to deposit welds in most favorable position; (5) use most economical size of electrode; (6) obtain good fit-up of welded joint; (7) control the size of welded joint, and (8) obtain a good operator factor, or use of workman's time. By analyzing each item with a specific example he showed that the total effect of the eight factors on the cost of welding without any special interrelation of one upon the other could more than triple the cost of welding if good practices were not observed throughout. Even with the conservative assumption of the almost ideal operator factor of 70 per cent the cost would be nearly two and one-half times.

The first factor, design, is important in new welded railroad structures because, as Mr. Brooking said, fundamentally, weld metal is expensive; all other factors being equal, the welded design with the least weld metal is the best. This axiom in welding is also the reason why a good fit-up of joints and control of the size of the weld are important. Each of these two factors can increase the cost of welding by 100 per cent, a fact that stresses the need for a good fit-up tnd the elimination of overwelding.

Careful planning is required to reduce scrap to a low percentage of the total steel plate and the effort is particularly justified during the present steel shortage. When one considers the many parts and devices made in railroad shops by the use of scrap boiler plate and welding, one wonders if a large percentage of this same scrap could not have been saved by better usage for the purpose for which is was intended, the construction of boilers.

Without going into details about each factor it can be stated that items appearing to be insignificant have startling effects upon costs. The truth of this statement is borne out by Mr. Brooking's analysis of the influence of electrode size. Use of a $\frac{7}{32}$-in., instead of a $\frac{1}{4}$-in. electrode, just $\frac{1}{32}$-in. difference in diameter, increased the cost of welding by 27 per cent.

It can be readily appreciated that the item having the greatest effect on costs is the operator factor. As Mr. Brooking so aptly puts it, "If the arc is not burning, no weld metal is being deposited, no matter what the other conditions may be." His figures showed that a 50 per cent operator factor (50 per cent effective accomplishment by the workman, not including normal rest allowance), instead of an almost ideal 70 per cent factor, would boost the cost of the product he used as an ex-

ample by 222.8 per cent when applied to all accumulated labor.

These differences in costs show the value of good welding practices. They demonstrate the importance of details and the possibilities of improving on the inherent advantages of welding in its application to the railroad industry.

Action Demanded if Railways Want College Men

June—and college commencements—are not far off. Then a new crop of graduates will come into the market. Will the railways get the pick of these men? Will they get *any* of them? By chance and good fortune they may get a few, but it is a certainty that they will not get the pick unless they do more than they have in the past to seek them out, cooperating closely with the colleges and universities to that end.

But do the railways want and need college-trained men? Dare they say "no" in the face of the high value put on such men by other large industries, including their competitors, many of which maintain constant liaison with one or more of the colleges of the country and select their men with extreme care?

Are the problems of the railways less varied, less difficult, less important, than those of other industries? Have they a future that warrants an organization less strong, less alert and less aggressive than their competitors? Measured by the lack of interest manifested in this matter by most roads to date, one might well assume answers in the affirmative, a fact that is alarming to a growing number of higher railway officers with a long-range point of view, many of whom are throwing their weight behind the efforts of the railway group that is taking the most aggressive leadership in this matter —the committee on cooperative relations with universities of the American Railway Engineering Association.

The considered recommendations of this group following its studies of the past five or six years, which were reported in *Railway Age* for March 16, plus the stern warning of the Civil Engineering Division of the Society for the Promotion of Engineering Education, published in *Railway Age* for March 30, should stimulate immediate action on the part of the railways to remedy their attitude of indifference toward college-trained men—an attitude which has not only robbed them of much-needed specialized talent in the past, but which promises to dry up the source of such talent in the future unless the necessary steps are taken to prevent it.

And the increasing agitation of these groups should not be construed erroneously to apply alone to civil engineers and the engineering and maintenance departments of the railways. Only within the last month a railway officer prominent in both of these groups emphasized this point when he said, "The civil engineering profession does not have a corner on ability to produce good railroad officers. The mechanical department, likewise, needs college-trained mechanical engineers, and our signal and communications departments would do well to pick up needed electrical engineers, particularly some with a basic knowledge of electronics. Our purchasing and accounting departments," he added, "might well look to college-trained men who have majored in business administration, accounting and economics." He might have gone on to say that there is not a single department of the railways that would not be benefited in the long run by the infiltration of at least a moderate alloy of carefully selected college-trained men.

How the railways can secure these men is answered in the two references given earlier in this comment. But the time is getting short—not only to garner in likely candidates from the 1946 crop, but also to put a stop to the continuing discouragement of colleges and universities in training men for railroad service. Persistent indifference of the railways on this score cannot fail to have harmful consequences.

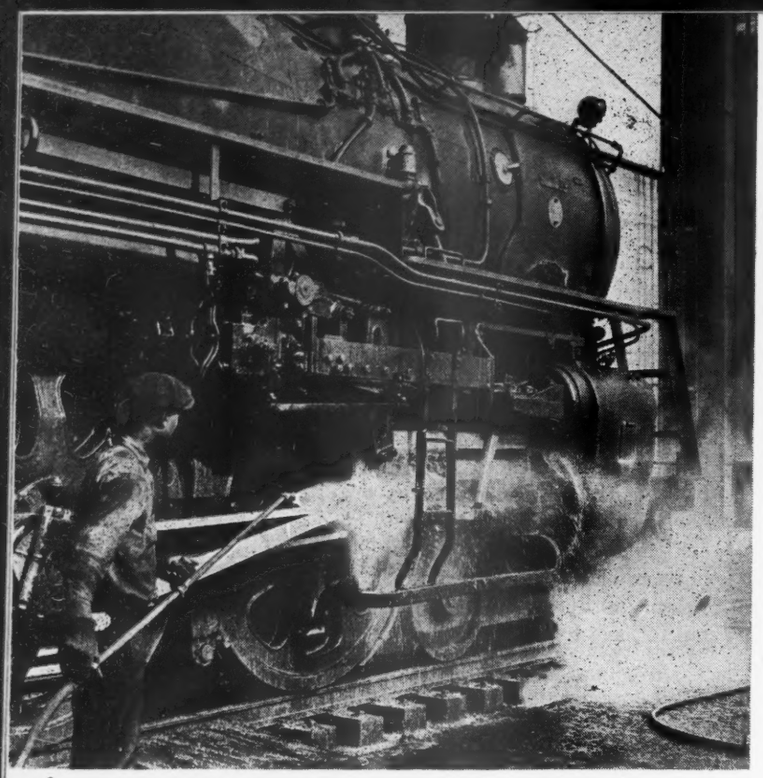
The Wheat and the Chaff

The recent adverse publicity charging the railways, in effect, with starving European children because insufficient grain is appearing at ports for shipments abroad is a characteristic example of bureaucratic buck-passing. Actually, the railways are hauling to the ports all the grain that is offered to them for such transportation. The recent charges uttered by certain government bureaus, seeking to blame the railroads for not moving sufficient grain, were without foundation.

There are no grain elevators anywhere in the country blocked for lack of cars suitable for grain loading. Despite an all-time record production of wheat in the past two years, stocks on the farms are substantially below the average of the previous 10 years. In the past two years, the railways have moved a greater proportion of the crop from the farms to market or to the ports for export under the plan to feed Europe than has ever been moved before in history.

The box car situation admittedly is "tight," and this applies especially to first-class box cars such as are needed in loading grain. Despite this, however, the coming crop, which will begin to be harvested and shipped from the southern sections of the winter wheat territory shortly after the first of June, will be moved with the same efficiency as in 1945, when grain loadings reached a record total. Indeed, barring the unforeseen, the operations this year should show an even better record than last, since this year there were no severe winter storms to bring about a dislocation of box cars which lasted, in 1945, until the wheat harvesting season had begun. The railways this year, as last, will again be unable to store any appreciable number of box cars in the wheat loading territory in advance of the shipping season. However, last year's experience proved that a record grain loading can be moved without this precautionary measure.

Whatever else may interfere with the arrival of wheat in starving Europe, it will not be because of inefficient railway transportation and, despite the smoke screen thrown up by government agencies, there has been no delay on the part of the railways in handling this wheat to ports.



Availability of Steam Locomotives

How to get results with some of the older types of steam power from a cost and availability standpoint

By J. O. CONVERSE
Mechanical Engineer, Minneapolis & St. Louis, Minneapolis, Minn.

AVAILABILITY is the percentage of time a locomotive is available for service. A great deal is heard about it these days. A high percentage of availability enables a railroad to operate the same service with fewer locomotives. The advantages are apparent. From almost every standpoint it is desirable. In many cases, with normal traffic conditions or less, all available locomotive hours may not be used. They are then useful to take care of traffic peaks, grain rushes and many times will obviate the need for shifting locomotives from other districts, or making other provision.

We are not concerned so much in this discussion with the newer, ultra-modern steam locomotives or Diesels, for the management of these locomotives to secure high availability has been studied from every viewpoint. Considerable can still be done, however, to get increased availability with older steam power.

About the year 1900 locomotives began to grow in size, to meet the demand for heavier trains. By 1910 most freight locomotives delivered above 40,000 lb. tractive force. They were also much improved mechanically and structurally. Stephenson valve gear had been replaced by Walschaert, or other types of outside gears. Piston valves replaced slide valves. Superheaters came in about that time. Boilers were greatly improved, the narrow firebox being supplanted by the wide type, with a good grate area, and fairly satisfactory firebox proportions. Flues were longer, and better arranged.

The Mikado and Pacific type locomotives were being used in greater numbers. They had improved riding qualities, and maintenance cost, in spite of more parts, was generally less than on the mechanically simpler types. One important weakness of many locomotives produced in the second decade of the century was in frame construction. A great many splices and bolts were used. These caused many hours' delay to locomotives so equipped. A little later this was corrected, and many of the locomotives now used for secondary service are of the Mikado and Pacific types, built about the time of the first world war, or a few years later, and are quite satisfactory for the work, even if they are not strictly modern.

A Challenge to the Enginehouse

They will be used until they are replaced by more modern locomotive power. Generally, they are headquartered away from main shops and large mainline locomotive terminals. In many cases, inspections and maintenance must be made at outside enginehouses where limited facilities are available. Then the resourcefulness of the enginehouse personnel must prevail over the obstacles.

There are a number of time-consuming terminal operations in the daily operation of steam locomotives, as well as the time required to make running and classified repairs. The first of these is the fire-cleaning and cinder-pit jobs. Then will come such items as turning, housing if necessary, inspections and tests, supplies and lubrication, sand, fuel and water. These operations take time, and men to do them. With good facilities and sufficient force the time can be kept at a reasonable figure.

The periodical boiler washing, inspections and tests cannot be done on quick turns, but require the locomotive to be held out for a shift or so. This loss of service time cannot be avoided, but can be lessened by increasing the interval between the operations, making preparations ahead of time, and by making the best possible use of facilities.

The quarterly, semi-annual and annual inspections and tests are time consuming, must be carefully made, both to comply with the law and to discover incipient defects and correct them before they become serious. I do not believe anyone would seek to shorten these periods at the expense of thorough work. It is a fine time to find out the condition of boiler and machinery, and to make sure the locomotive is ready for another term of service.

Repairs, ranging in extent from the small daily items to the heavy classified overhauls done in the shop, require much time. This work must not be slighted, since it may cause road failures, or more extended repairs later. In brief, the best way to keep the time down is to know thoroughly the condition of each locomotive through daily inspection records and enginemen's reports, correct all possible defects before they become serious, and anticipate all repairs by having material on hand and the necessary facilities ready when the engine is held.

Tires, Driving Boxes and Flues

Tires, driving boxes and flues are the basic items that cause locomotives to be held for classified repairs. If any of these cause locomotives to be held for repairs at too frequent periods, then the motive-power department should make a

Abstract of a paper presented at the March 18 meeting of the Northwest Locomotive Association at St. Paul, Minn.

careful survey of the locomotive, or class of locomotives, to determine the cause, and find out if there is any correction to be made. If a locomotive regularly requires tire turning or renewal after 25,000 to 30,000 miles, such tire service must be given quickly or the locomotive will show a poor availability record.

Factors affecting this are low factor of adhesion, causing slippage, and excessive use of sand. Too much sand causes serious grinding action. Drivers not counterbalanced causes them to hammer the rail at one point of the circumference and perhaps completely leave the rail at another point. This causes unequal wear and out-of-round tires. Valve setting and cylinder conditions, which cause unequal power impulse, may bring about the same condition. All these factors, and others, are to be considered when tire wear is unsatisfactory.

Wheels an Important Factor

If the locomotive has driving wheels that permit correct counter balancing for the speeds at which it customarily operates, a great advance has been made in its availability, for it will then give much better tire mileage, and cause less stress on the machinery generally. A satisfactory weight on drivers, on which the factor of adhesion depends, has an important bearing on tire wear, because there is less wheel slippage, and "quarter slip" may be eliminated entirely. Some locomotives have a tendency to run out of square and consequently cut tires badly. These will require special study, since each is a special case. If such a tendency can be eliminated, many out-of-service hours will be saved.

Almost always there is a matter of getting the tires restored to contour and returning the locomotive to service without the loss of too much time. With strictly modern facilities, conveniently arranged, this is not much of a problem, the out-of-service time being a matter of two to four days, depending on other work needed. But too often a single wheel pit is the only available facility, with shipment to a distant wheel lathe for reconditioning, or perhaps the locomotive may be sent to the main shop for all work above the most simple maintenance. In either case there is apt to be much lost time.

A study is then required to determine if improved facilities are justified. The value of the locomotive's time must be carefully compared with the cost of providing improved equipment. This will be a problem in policy on each railroad, and will not be considered here, but it must be remembered that the latest drop-table equipment will remove a defective truck from a Diesel locomotive, replace it with a good-order one, and send the locomotive on its way in an hour or so, and that's what makes locomotives available for service.

Given a locomotive with a satisfactory boiler, washout plugs of proper type and located so all parts of the boiler can be washed, and good water to use in it, a long step toward availability has been taken, for it provides opportunity for extension of washout periods. Add to this good washout facilities so washing can be handled with despatch when needed.

Stokers, Grates and Ash Pans

Stokers, grates and ash pans are of prime importance in the availability program. Stokers should always be well maintained, with grates of correct design and always working freely. If binding or hard operation is found at fire cleaning, or is reported, it should be corrected without fail. The design of the grate rigging should be carefully considered to insure free movement. Ash pans should be as roomy as may be, and the doors and dumping gear should be laid out for free operation. Roomy pans permit longer runs without stopping to dump, and help prevent ashes from piling up against the grates—one of the chief causes of burned-out grates. The master mechanic and road foremen can be of great assistance in instructing enginemen in proper firing, and in bringing engines to terminals with the best possible fires.

The locomotive will, no doubt, be equipped with a mechanical lubricator for valves and cylinders, and its proper operation is very important. Pressure greasing for the driving gear is quite desirable, and, if used, should be arranged to insure lubrication from terminal to terminal. Enginehouse inspectors should be alert to detect any deficiency of lubrication, in valves, cylinders or driving gear. Nowhere is it possible to save more out-of-service time than in discovering poor lubrication before serious trouble is encountered.

A great deal of help in this may be had from enginemen's reports, and oral reports by crews. Much can be gained from the findings of the terminal inspectors. Road foremen can accumulate invaluable data pertaining to each locomotive. An intensive study of engine-failure reports is of the greatest value in determining the policy with respect to maintaining any particular class of power. A continually recurring failure naturally leads to an investigation that will determine the cause and what may be done to correct it. If time is available, an historical record of the mechanical characteristics of each locomotive is a fine thing to have, and a frequent reference to it will aid in the maintenance program.

One of the most important things is the anticipation of repairs, forestalling them if possible. If not possible, then arrange material and men so the work can be done with least time lost.

Every locomotive, of any kind, or any other machinery, for that matter, begins to wear as soon as it begins to move. The prevention of wear is a major problem in all industry. Granted that the design is right and material properly chosen, then the two great factors in preventing wear are correct adjustment and good lubrication. Maladjustment consists of permitting excessive looseness of parts, loose or working bolts, and many other defects. Most bearings fail because they have been allowed to accumulate excessive clearance, which causes heavy pounds. As with tires, the larger the flat spot the more rapidly it becomes worse.

In the automotive and aircraft industries we hear about super-finishes on wearing parts, and other features designed to reduce the rapidity of wear and to insure longer trouble-free service. In these industries the reduction of wear is considered one of the important features of design. It is also true of locomotives. Well designed parts of correct material so arranged that they always maintain their proper relation to other parts, well finished and properly lubricated, are one of the most important factors in locomotive availability.

Keep Locomotives Tuned Up

It is the problem of the railroad mechanical man to try to prevent conditions that lead to excessive out-of-service time, by keeping locomotives "tuned up" as much as possible, and if repairs cannot be forestalled, then do them in such a way as to lose the least service from the locomotive. Constant vigilance is the price.

Repair parts supply is important. A locomotive that is worth many thousands of dollars should not have to wait for a part that costs only a few cents. Supply service is of great importance in cutting down locomotive out-of-service time, and should be made the subject of intelligent study by mechanical men in conjunction with the stores department personnel. No one wants to overload the small terminal stock room, or to carry a lot of parts that may never be used. But locomotives are important and expensive machines, and they must have parts protection if they are to be kept running.

To sum up, the reduction of out-of-service time, or increase of availability in connection with these older locomotives, is important because you can do the same work with fewer units, and can always take care of unexpected peak demands for power. It can be accomplished most easily by improved boiler

(*Continued on page 906*)

William Carter Dickerman Dies

WILLIAM CARTER DICKERMAN, chairman of the board of directors of the American Locomotive Company from March 1, 1940, until his retirement last December, died on April 25 at his home in New York. He was 71 years old.

Born in Bethlehem, Pa., and a resident of New York since 1900, Mr. Dickerman was a descendant of a family which settled in Dorchester, Mass., in 1638. The family moved to Connecticut and then to Harford, Pa. Mr. Dickerman's early home was in Milton, Pa., and he attended Penn Charter school in Philadelphia, Pa., and Lehigh University in Bethlehem.

Active in the railroad equipment field for 50 years, Mr. Dickerman, after he was graduated from Lehigh in 1896, joined the Milton Car Works, Milton, Pa., where he served successively in the auditing, purchasing and engineering departments. In 1899, after the formation of the American Car & Foundry Co., of which the Milton Works became a part, he was appointed assistant manager of the Milton, Pa., district of the firm. Transferred to New York in 1900, he was general sales agent until 1905, when he was appointed vice-president of American Car & Foundry. When this country entered the first world war, Mr. Dickerman was placed in charge of all war production of the company for the United States and the Allies. In 1919 he became vice-president in charge of operations.

Mr. Dickerman was elected president of American Locomotive in 1929, and served in that capacity until he was elected chairman. After serving through the war years at the request of the board of directors, he resigned as chairman immediately after the end of the conflict, continuing, however, as a director and a member of the executive committee.

William Carter Dickerman

In the early 1930's, at the request of the late President Roosevelt, Mr. Dickerman became a member of the Business Advisory Council of the Department of Commerce. Lehigh University conferred upon him the degree of Doctor of Engineering in 1938. In 1945, Union College, Schenectady, N. Y., awarded him the degree of Doctor of Laws.

Mr. Dickerman also was a director and a member of the executive committee of American Car & Foundry. In addition, he was a director of many other leading corporations, including the General Electric Company, the Carter Carburetor Company, the Superheater Company, the International General Electric Company, Inc., the Shippers Car Line Corporation, and the First Milton (Pa.) National Bank. Until recently, he was a director and member of the executive committee of the United Gas Improvement Company.

A trustee of Lehigh University and the Grand Central Art Galleries, New York, Mr. Dickerman was for many years a leading member of the Newcomen Society of England, of whose London council he also was a member. He was a member of the Metropolitan Museum of Art, the Museum of Modern Art, the American Academy of Political and Social Science, the American Association for the Advancement of Science, the American Institute of Mining and Metallurgical Engineers, the American Museum of Natural History, the Royal Society of Arts, London, and the American Society of Mechanical Engineers, in which he recently was elevated to a fellowship. For five years he was a councillor of the National Industrial Conference Board. He also belonged to the Metropolitan Club, the Union Club, the Recess Club, the New York Railway Club, and the University Clubs of New York and Philadelphia, and was active in the Railway Business Association, of which he was a vice-president.

Mr. Dickerman was president of Princeton University's Guild of Brackett Lecturers, before which, on April 14, 1931, he made an address entitled "The Steam Locomotive in America's Railroad Progress."

* * *

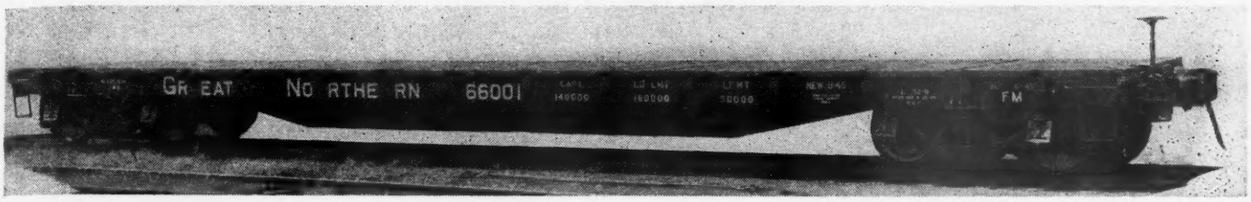
An experiment born of war-time necessity to relieve harassed station ticket forces of details in arranging for inter-line trips, this modern "up-town" city ticket office of the Pere Marquette at Grand Rapids, Mich., has proved to be a real convenience to the road's patrons and a definite traffic builder.

Availability of Steam Locomotives

(*Continued from page 905*)

and water conditions, extending washout periods, shortening the fire-cleaning time by good grates and ash pans, by very vigilant inspectors, who anticipate trouble, enabling the supervision to pass on information to other terminals that may help forestall some troublesome condition, and by the best possible maintenance and lubrication of the machinery and moving parts. Availability of repair parts is quite necessary in the program. Good facilities for repairs are a tremendous help.

Something else helpful is the exchange of information and cooperation between the supervisors at the different terminals through which the locomotive operates. Many small delays thus can be forestalled, and we must not forget the tendency of small ones to become larger as the miles roll up.



Great Northern Buys Low-Floor Flat Cars

Cor-Ten steel used in welded construction—The cars weigh 50,120 lb. and are 52 ft. 8½ in. long

THE Great Northern has recently placed in service 250 seventy-ton flat cars of all-welded construction which have a floor height of only 3 ft. 7 in. above the rail. These were built at the Berwick, Pa., plant of the American Car and Foundry Company and the principal dimensions are shown in the table. The material for the structural shapes, plates, and bars is Cor-Ten steel.

The car structure is built up on center sills of 30-in. car-builder's section weighing 116 lb. per foot. The webs are sheared and the lower flange formed and welded to produce a fish-belly type girder. The top of this girder is covered with a 16-in. by ⅜ in. plate which extends just beyond the bolster toward each end of the car. The side sills are A. A. R. section V-112, weighing 40.3 lb. per foot. They are placed with a double flange at the top and a single flange turned in toward the center of the car at the bottom. Strikers and bolster center fillers are of built-up welded construction and are welded in place in the center sills.

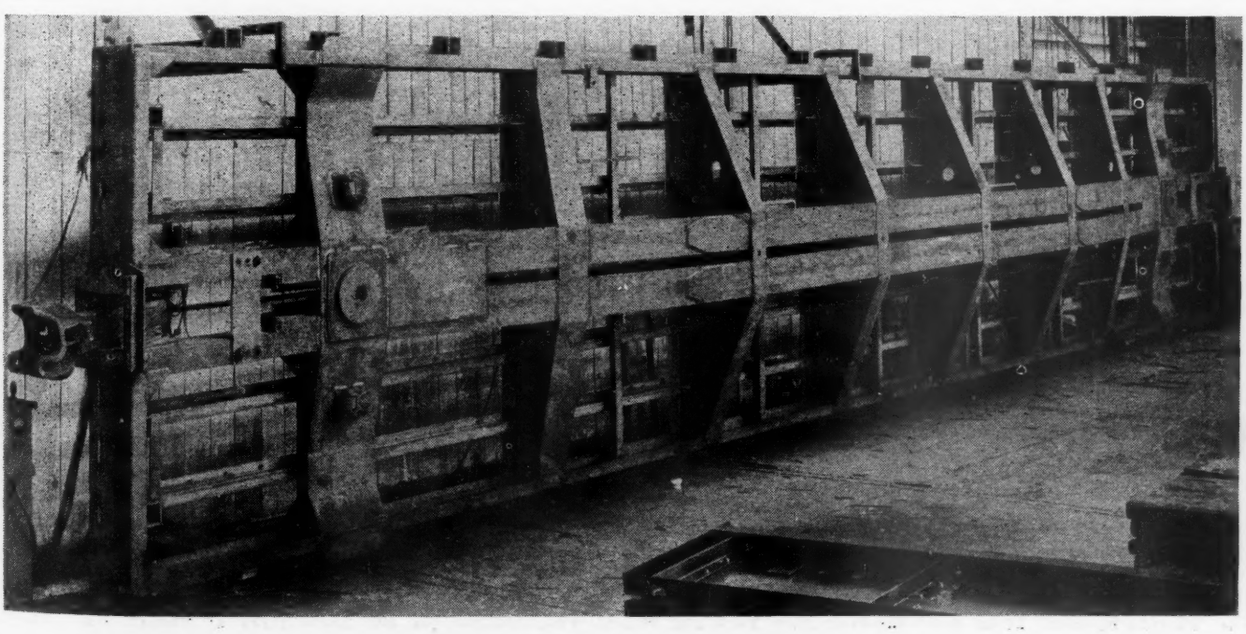
Principal Dimensions of the Great Northern All-Welded 70-Ton Flat Car

Length over strikers, ft.-in.	52-8½
Truck centers, ft.-in.	41-8½
Width over floor, ft.-in.	10-4
Height rail to top of floor, ft.-in.	3-7
Light weight of car, lb.	50,120
Concentrated loads, per cent of load limit capacity:	
10 ft. long or less	50
Over 10 ft. to 20 ft.	60
Over 20 ft. to 24 ft.	70
Over 24 ft. to truck centers	80
Extending beyond truck centers	100

The bolster is of built-up welded construction. It consists of a 12-in., 30.9 lb. channel placed horizontally across the top of the center sills with flanges down to form a top member; a 21-in. by ⅜-in. bottom cover plate and two ⅜-in. web plates. These plates are fillet welded to the bottom cover plate and lap-welded to the flanges of the top channel member.

The center sills are reinforced at the top near the ends of the car by channels pressed from ⅜-in. plate which extend well back toward the middle of the car from the back side of the bolster and from the front of the bolster to the end of the sills. These pressed channels are placed flanges down and are welded to the center-sill top cover plate and to the top flanges of the center sills beyond the ends of the cover plate.

The end sills are pressed channels of ⅜-in. plate about 13 in. in depth. A ⅜-in. by 3½-in. plate is welded to the face



The under side of the completed underframe

The completed center sill

of the end sill, above which it projects to provide a stop against which the flooring is laid. The end sills are secured to the side sills by a pressed angle corner piece, one flange of which is welded to each of the two members.

The top flanges of the side sills are notched on the outside for stake pockets which are welded in place. There are 15 of these pockets on each side and four on each end.

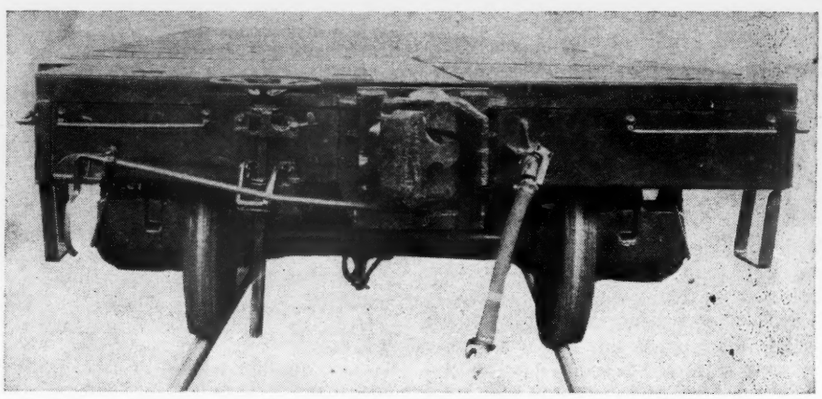
Crossbearers consist of four deep members spaced 6 ft. center to center and symmetrically located from the transverse center line of the car. Each consists of a top cover plate of ⅜-in. material 10 in. wide, a bottom cover plate 9/16 in. in thickness by 7½ in. wide, and a ⅜-in. web plate, fillet welded to the corner plates. An additional crossbearer is located 5 ft. 10¼ in. toward the center of the car from each bolster center line. The depth of these is arranged to suit the depth of the center sill at this location, which is on the tapering portion of the sills. Each consists of a 10-in. by ½-in. bottom cover plate, a 13-in. by ⅜-in. top cover plate, and a ⅜-in. web plate.

There are five 4-in., 8.2-lb. Z-section crossbearers on each side of the car to support the floor stringers. The ends of these crossbearers are welded to the center and side sills. The floor stringers are 3-in., 6.7-lb. Z-sections.

The special features of this design are the low floor height, which is 3 ft. 7 in. above the rail, and the arrangement which requires no gaining of the floor boards. All supporting surfaces on the underframe are in one plane. The floor boards are creosote treated and are 10 in. wide by 2½ in. in thickness.

The cars are equipped with AB brakes with 10-in. cylinders. The foundation brake rigging differs from the conventional arrangement by the introduction of levers to guide each top rod so that it will clear the bottom flange of the fish-belly center sill and eliminate side thrust on the push rod.

The cars are equipped with the American Steel Foundries Ride-Control trucks, Type A3, with 2½-in. spring deflection.



The B end of the Great Northern flat car

* * *

Photograph Courtesy Florida East Coast

The "Florida Special," 24-hr. train between New York and Miami, Fla., crosses the St. Lucie river at Stuart, Fla. The Diesel-electric locomotive is in three units

Railways are using more fire-retardant treatment for all timber and lumber in such structures as this enginehouse at Mingo Junction, Ohio. Not only does pressure-treatment provide insurance against a fire crippling terminal facilities, but the treated wood also resists decay and reduces maintenance costs

Wood-Preservers Meet at Cincinnati

Spirited technical session climaxed by the adoption of a timely resolution deprecating socialistic tendencies and calling for equal rules, regulations and taxes for all types of enterprise

THE climax of the first post-war convention of the American Wood-Preservers' Association, held in Cincinnati, Ohio, on April 23-25, came during the closing hours of one of its most active and spirited annual meetings on record, when the association adopted a strong resolution condemning the socialistic principles of tax-free favoritism for many government corporations and cooperatives and calling upon members of the Congress to exert their influence in eliminating irregularities and to equalize rules, regulations and taxes among all cooperative forms of business and private enterprise in this country.

Indicative of the intense interest in wood preservation was the registration of 366 members and guests from all over the United States and Canada. Membership in the association has reached an all-time high of 945, of which 121 were added to the roster during the last year.

From the keynote of warning on railway economic problems briefly sounded by J. J. Brinkworth, vice-president, Cleveland, Cincinnati, Chicago & St. Louis, in his address of welcome and expanded by Samuel O. Dunn, editor, *Railway Age,* and chairman, Simmons-Boardman Publishing Corporation, in an analysis of the economics of railway operation and of the significance of private enterprise to all American industries, the program of the opening session moved at a fast pace through many economic and technical deliberations. In the absence of Mr. Dunn, because of illness, his address was read by C. Miles Burpee, purchasing and stores department editor, *Railway Age.*

Among the highlights of the convention were many interesting presentations on Users Day. These included a paper on The Need for Research and Development in the Wood Preserving Industry, by J. B. Akers, chief engineer, Southern; The Use of Treated Wood in Light-Load Home Building, by E. J. Gavin, editor, American Builder; Wood Utilization Research in Oregon, by Paul M. Dunn, dean, School of Forestry and director, Oregon Forest Products Laboratory, Oregon State College; and The Use of Composite Timber-Concrete Construction on Navy Bases, by Harris Epstein, head designing engineer, Bureau

of Yards and Docks, U. S. Navy Department.

Thursday's session included an enlightening report on the resistance of timber pressure treated with fire-retardants, as well as plant control and inspection of fire-retardant treatment; fire-retardant treatment for laminated members and the effect of treatment on glue joints. J. H. Bremicker of the Pennsylvania, with headquarters at Philadelphia, Pa., the president of the association, presided.

Election of Officers

At the closing session on Thursday, R. H. Rawson, consulting timber engineer, was elected president; A. J. Loom, general superintendent timber preservation and tie treating plants, Northern Pacific, was elected first vice-president; G. B. McGough, superintendent, Bond Bros., was elected second vice-president; H. L. Dawson was re-elected treasurer; R. H. White, Jr., president, Southern Wood Preserving Company, and W. R. Yeager, inspection engineer, Western Electric Company, were elected members of the executive committee.

The next annual convention will be held at Portland, Ore.

Because of the general trend toward tax-exempt and privileged government corporations and cooperative forms of business, the association departed from its usual policy and adopted a resolution condemning this trend and calling for equality for all forms of business enterprise.

The vote was more than two to one in favor of the resolution, which was introduced by H. R. Duncan, superintendent of timber preservation, Chicago, Burlington & Quincy, and past president of the A. W. P. A.

In reviewing the work of the association during the past year, President Bremicker stressed the need for continuous progress and stated that it must pioneer in marking out trails beyond present knowledge, in recognizing the need for additional knowledge for the treatment of species not so well known, and in welcoming generally improved methods.

Commenting on the fine work the various committees had performed during the year, Mr. Bremicker said that without partiality in praise the special committee on handling forest products has begun its difficult task and that its accomplishments warranted speical commendation from the entire association and its allied industries.

The president pointed out that while specifying size and quality of forest products is not the function of this organization, the industry is often blamed for service failure due primarily to the fault of the wood.

In urging the need for additional research and development within the wood preserving industry, J. B. Akers, after emphasizing the necessity for continuing national wood conservation measures, said:

Responsibility for Research

"How can we escape a share of the responsibility for the better development of strength and durability characteristics of ties and timbers? All of you know how difficult it is to carry timbers and ties through the necessary seasoning period before they are dry enough to treat. In the natural process of drying out, stresses are set up which often result in serious damage to the timbers through splitting, checking and warping. That this happens is partly your responsibility. Some woods are unsatisfactory because they are too soft, or are lacking in strength. If we can find the means to obviate these difficulties we will save a lot of wood which now goes to waste and also materially increase its useful life. Isn't this a part of conservation? We are too prone to say that wood is a natural product and that its qualities are inherent, and not subject to change by some treatment. Research and development, if earnestly applied, will surely find the answers.

"The checking and splitting in cross ties has been discussed time and again before this and other associations. It is responsible for the renewal of a great many ties which are sound otherwise. It is not that the tie decays, but it becomes unserviceable because of splits which grow. The checking and splitting are mechanical and it seems agreed that it occurs during the seasoning process.

"The industry which has produced laminated timbers that can be bent to any form, and which knows so much about the chemistry and physics of wood, can work out satisfactory answers to these troubles. The railroad industry is partly responsible and there may be others. Why should not the research be carried on as a cooperative project? The development of steel rail is undertaken as a joint project in some measure by the railroads and the steel mills. Both subscribe to it. I see no reason why the research and development of ties and timbers should not be made a joint project of the timber industry and the users, which includes the railroads."

Fireproofing

The committee on fireproofing, of which R. H. Mann (A. W. P. A.) is chairman, presented an outline of the report prepared by a committee which investigated the collapse and subsequent fire in three treated wood blimp hangars following a hurricane at Richmond, Fla.

According to this report the fire-retardant treated wood afforded all the protection which should be anticipated. It was instrumental in preventing the spread of fire and did not itself support combustion. Even though untreated interior portions of the wood members were exposed through breakage after falling, the fire-retardant treatment of the exterior wood prevented, or assisted in preventing, fire and spread of fire where it was not fed directly by the highly combustible contents of the building.

Additional evidence that fire-retardant treated wood is effective in preventing fire and spread of fire was found in a Navy hangar, at a base in Georgia, of the same design and size as the three Richmond hangars. A blimp containing 450 gal. of gasoline burned during re-fueling operations in this hangar, which itself was undamaged. After the gasoline ignited, flames spread rapidly over the finish of the blimp car and the canvas-rubberized blimp bag. An area approximately 100 ft. wide of fire-retardant treated wood on the underside of the roof was exposed to flames rising over 150 ft. It is reported the fire lasted nearly two hours. While the concrete floor spalled in the fire area and a metal conduit was destroyed, the treated wood did not support combustion or spread flame, and no structural damage occurred to the hangar. It is believed that untreated timber would have ignited and that it would have been impossible to control a fire of this intensity.

Control of Fire-Retardants

Methods of analysis for the chemicals commonly used for fire-retardant treatment of wood and methods of determining penetration were presented in detail in a paper by W. A. McFarland of the American Lumber & Treating Company, Chicago, and H. W. Angell of Oregon State College, Corvallis, Oregon.

Pointing to the fact that the methods described are now used by the industry for treating more than 50 million f.b.m. of lumber annually by the vacuum-pressure process, the authors declare that accurate, relatively simple procedures assure correct concentrations and ratios of chemical compounds and accurate measurements of the depth and extent of penetration.

Plant operators and inspectors alike, the paper said, are now assured correctly treated products and that a given retention of fire-retardant, deeply impregnated in wood, will provide a predictable degree of fire-resistance.

The four chemicals generally used for flameproofing wood are (1) boric acid, (2) sodium tetraborate, (3) ammonium phosphate and, (4) ammonium sulphate. These are used in combination for three formulas of the Proposed Federal Specifications and Navy Department Specification 51-C-38 as follows:

Type	Compound	Proportion
I.	Ammonium sulphate	80
	Ammonium phosphate (monobasic)	20
II.	Diammonium phosphate (dibasic)	10
	Ammonium sulphate	60
	Sodium tetraborate (borax, anhydrous)	10
	Boric acid	20
III.	Sodium tetraborate (borax, anhydrous)	60
	Boric acid	40

Several visual stain tests are used for determining the penetration of colorless fire-retardants in wood, some of which are adaptations of quantitative and qualitative chemical tests. Another type of stain test indicates the presence of the chemical by its action on components of the wood. Cross-sections or increment borings for the treated wood are employed for test purposes.

Treated Wood for Cars

H. R. Condon of the Koppers Company, chairman of the committee on uses of treated wood for car lumber, outlined the large amounts of such wood in freight cars in 1945.

Among the new uses for treated lumber were those reported by the Pennsylvania in which (1) Asidbar battery box boards are used in passenger cars to prevent crushing and chemical reaction from acid spilled from batteries, and (2) contact shoe beams made of phenolic resin-bonded laminates which had been treated with Arboneeld for dimensional stability and increased hardness.

Treatment of Laminated Wood

Judging from many laboratory pressure treatment tests of laminated and glued specimens, involving practically every known preservative and fire-retardant, the special committee on preservative and fire-retardant treatments of laminated members reported that pressure treatment has been found entirely feasible, provided that waterproof resin glues are used. These resin glues include hot-press phenols, low-temperature phenols, low-temperature resorcinols and phenol-resorcinol blends. The committee pointed out that plywoods manufactured with hot-press phenols are especially susceptible to treatment and without any adverse effects on the glue line.

The problem of gluing wood already treated has not been completely solved because it involves so many different glues and treatments. However, the committee declared that enough work has been done with several of the better known preservatives and glues to show results that may be expected from specific combinations. Although the limited number of tests precludes a final conclusion, indications are that the newer low-temperature resorcinol adhesives are compatible with lanolith (toxic preservative salt), minolith (fire-retardant) and creosote. Experience so far has shown that while resorcin glues are the best all-around glues yet developed, they are also the most expensive. The report adds that, when economically feasible, their use should be specified for laminating pressure-treated lumber.

The report also includes interesting detail data on the construction of a small shop for locomotives at a treating plant at Gainesville, Fla. Built entirely of lumber and plywood pressure-treated for durability and fire-resistance, the structure was designed with three-hinged boomerang-type arches some of which were fabricated from lumber that had been pressure-treated before gluing, while others were made from untreated lumber and treated afterwards; treated plywood was used for the sidewalls.

Plywood of any species normally susceptible to impregnation may be pressure-treated, although some species, such as gum, which have a tendency toward distortion, require some special handling, according to the report. The types of treatment which it lists as applicable to plywood include: (1) Fire-retardant chemical, using generally accepted formulas; (2) preservative salts such as zinc chloride, chromated zinc chloride, tanalith and zinc meta arsenite; and (3) preservative salts in combination with fire retardants.

Impregnation of Plywood

Continuing the consideration of the preservative and fire-retardant treatments of laminated wood, J. Oscar Blew, technologist of the U. S. Forest Products Laboratory, presented a discussion of results obtained in a study begun in 1943 to determine the effects of preservative and fire-retardant chemicals on various adhesives used to glue birch plywood. Because the impregnation of plywood is a relatively recent development the subject is of considerable interest to the wood-preserving industry, particularly because of many questions raised by both producers and users.

Dr. Blew also pointed out that the study is aimed at determining immediate effects as well as the effects of prolonged exposure of the treated plywood and the chemicals themselves to various relative humidities.

Three-ply yellow birch plywood was glued at the laboratory from 1/16 in. rotary cut selected veneer. Fifty panels, 17 in. by 32 in. were glued with each of the following types of adhesive: cold-setting urea resin; intermediate temperature phenolic resin; casein; casein plus 5 per cent sodium tetrachlorophenate; hot-press phenolic resin; hot-press fortified urea resin; hot-press melamine resin; and resorcinol resin. After proper conditioning the specimens were treated with eleven different chemicals including: coal-tar-creosote, pentachlorophenol, copper naphthenate, chromated zinc chloride, tanalith, zinc-meta-arsenite, celcure, ammonium sulphate-phosphate, borax-boric acid and ammonium sulphate-phosphate-borax-boric acid.

Five exposure tests were selected to determine durability including: soaking in the original treating solution at room temperature for periods ranging up to 72 months, soaking in salt water and continuous exposure at varying humidities for varying periods ranging up to 72 months.

In presenting his conclusion Dr. Blew said that:

(1) Under the conditions used in this test plywood joint strength was not reduced seriously by treatment, except in the case of the plywood glued with cold-setting urea resin and impregnated with water or water-borne chemicals.

(2) Soaking plywood in original treating solutions produced harmful effects on joint strength with ammonium sulfate-phosphate when casein glue or casein treated with a preservative is used. The oil preservatives do not appear to be harmful to any of the glue joints tested when plywood is soaked in a four per cent sodium chloride solution simulating sea water.

(3) Under continuous exposure for long periods to high relative humidities, untreated plywood glued with casein, casein plus sodium tetrachlorophenate, or a cold-setting urea-resin adhesive performs unsatisfactorily. Treatment of casein-glued plywood with the fire-retarding chemicals used in this test is likely to increase the danger of joint failure under such exposure conditions.

Preservatives

The committee on preservatives, of which R. H. Baechler (Forest Products Laboratory) was chairman, presented a report that included comparative data on the results of inspections of Southern Pacific trestles whose supporting piles were treated with both low-residue and high-residue creosote, which showed an average service life of 23.61 years for low-residue piles that have failed to date and an average life of 16 years for corresponding high-residue piles. Of 39 foreign patents relating to wood preservation held by the Alien Property Custodian and examined by the committee, eight were reported as being of probable value and worthy of further consideration.

P. D. Brentlinger (Pennsylvania) chairman of the committee on the pressure treatment of oak ties, lumber and piles, reported progress and presented specifications for the preservative treatment of oak piles as information only because certain sections have not been completed. A maximum temperature of 200 deg. F. also was established to complete the association's standard specification for zinc chloride pressure treatment of oak ties and lumber.

The committee on the pressure treatment of gum ties and lumber, headed by J. A. Vaughn (Southern Wood Preserving Company) presented a specification for the preservative treatment of black or red gum ties and lumber by the pressure process, which was adopted as a tentative standard by the association.

The report of the committee on the pressure treatment of intermountain Douglas fir and western hemlock, of which J. M. Gurd (Timber Preservers Ltd.) was chairman, after stressing their full consideration of all the factors involved, recommended against the inclusion of intermountain Douglas fir and western hemlock in a standard specification for the treatment of Pacific Coast Douglas fir. The committee also presented separate tentative specifications for the pressure treatment of ties, lumber, piles and poles of both intermountain Douglas fir and western hemlock.

In connection with its assignment to consider stipulating a maximum temperature limit in the specification for zinc chloride treatment of ties and lumber, the committee on the pressure treatment of southern pine ties and lumber, headed by E. H. Moore (International Creosoting & Construction Company) recommended that the maximum temperature be left to the option of the plant operator.

The committee on inspection, of which H. F. Round (Pennsylvania) was chairman, presented explanatory data in conjunction with standard recommendations for the purchase and preservation of forest products.

An interesting report was presented by the committee on the non-pressure treatment of poles, of which J. P. Wentling (Consolidated Treating Company) was chairman. Data were presented on the detailed inspection of 108 southern pine poles treated with Osmosar (a mixture of sodium fluoride, dinitrophenol, sodium arsenate, potassium bichromate and a colloid) and set by the Alabama Power Company in 1936. The latest inspection (1944) showed 75.5 per cent of the poles in good condi-

tion and the inspector recommended an Osmoplastic ground-line treatment to check deterioration. Poles from the same Monroeville, Ala., lot were shipped, given full-length treatment in the plant of the New York State Electric & Gas Company, near Pawling, N. Y., and set in a line near there in 1937. An inspection, in October 1945, of ten poles selected at random and including an examination of the ground-line area revealed that all were in good condition.

Marine Piles

Among the data presented by the committee on marine pile service records, headed by A. S. Daniels (Texas & New Orleans), were those on 2,571 creosoted Douglas fir piles driven in the trestle approach to San Francisco Bay bridge in 1908. Treated by the full-cell process and with net absorption of 12 lb. to 14 lb. per cu. ft., which gave full sapwood penetration, 1,200 were encased in concrete in 1919 because of borers but a portion of this casing is now ineffective. A total of 462 isolated piles had been renewed by the end of 1945 and practically all of the remainder show evidence of varying degrees of attack by limnoria and teredos. The average service life to date if 30.3 years. In discussing a progress report on the exposure at Port Arthur, Tex., to marine borers of a series of small test panels treated with solution containing coal tar and heavy oils with various carriers, the committee reported:

"These preliminary data appear to indicate that solutions containing high percentages of high residue materials derived from coal tar are more resistant to limnoria attack than solutions low in residues. A residue of 20 per cent over 355 deg. C., does not appear to impart as satisfactory a resistance to limnoria attack as a residue of 37 per cent or over."

Need for Forest Conservation

Although the term sustained-yield forest management often is used to imply a fine philosophy that our forests will not be harvested faster than they will grow, Paul M. Dunn, dean, School of Forestry and director, Oregon Forest Products Laboratory, Oregon State College, told his audience that at present rate of cutting we must be prepared for reduced production unless we put all potential forest acreage into a state of satisfactory timber growth. He also declared that it will take years to reestablish full timber stands in many burned and cut over areas and that it is imperative that rehabilitation start at once. To indicate the urgency of corrective measures, Dr. Dunn pointed to present average forest utilization of 35 per cent of the trees with 65 per cent waste left in the woods as far below that of European countries and some sections of our own, where actual utilization up to 50 and even 70 per cent is realized.

Leading a discussion of wood utilization research in Oregon, he said that the $300,000,000 industry (1943 income) involved the cut and partial manufacture of 8½ billion f.b.m. of logs or timber. Oregon now has one quarter of the nation's timber supply, Dr. Dunn said, and produces more than 20 per cent of our annual lumber output. For the past 20 years Oregon State College has carried on cooperative research with the Western Pine Association and the West Coast Lumbermen's Association, designed to expand the use of forest products and cut down on waste. Developments include (1) the use of sawdust and wood flour for hard-board; (2) carbonizing and briquetting wood waste to form coke; (3) the production of ethyl alcohol and (4) current studies of plastic powder, insecticidal carriers and soil stabilizer and fertilizer.

Mechanical Handling

Spurred by increasing labor costs and the scarcity of tie-handlers in seasoning yards, the special committee on handling of forest products, headed by A. E. Larkin, of the Republic Creosoting Company, presented a voluminous report comprising a review of the many different mechanical devices and types of equipment designed and now in use at many plants. Following the recommendations of the committee, the association voted to rescind its instructions regarding the collection of funds with which to employ outside engineering assistance and to restrict the activities of the committee to the investigation of developments by members of the industry.

The seventeenth annual progress report of an international termite exposure test was presented by George M. Hunt (Forest Products Laboratory) and T. E. Snyder (U. S. Bureau of Entomology and Plant Quarantine). It describes the results of cooperative tests started in 1928, 1929 and 1931 to compare the effectiveness of various preservatives in protecting wood against decay and termite attack in various parts of the world.

Of particular interest to operators of treating plants was H. R. Bushley's (Elliott Company) paper on modern equipment for the Boulton process. Mr. Bushley emphasized the design, selection and correlation of creosote heaters, surface condensers and ejectors and their effect on operating efficiency, treating time and satisfactory treatment.

Because of the absence of an accepted method for evaluating wood preservatives, the acceptance of new preservatives has been slow and a paper by R. H. Bescher (Koppers Company, Wood Preserving Division) and R. J. Kepfer (E. I. du Pont de Nemours & Company, Grasselli Chemicals Department) on accelerated service tests of wood preservatives evoked considerable interest. Although many of their physical requirements, such as toxicity, effect on strength of wood, chemical stability, leachability, volatility, viscosity and flammability can be evaluated by laboratory methods, the permanence of wood preservatives under actual service conditions cannot be determined in laboratories. It was in 1932 that the du Pont Company and Koppers Company first adopted a reasonably-rapid method of evaluation which approaches actual service conditions. Six test plots were established in various parts of the country to evaluate accepted wood preservatives and to study others. The first results were published in A. W. P. A. proceedings in 1936 and 1939 and this year's paper gives additional information and brings the results up to date. Although the treatise points out that as yet no method has been devised to translate test results into terms of actual service life for larger material the results indicate definite relative values of preservation and the tests are being continued.

Modified Woods

A paper on Modified Woods was submitted by Alfred J. Stamm (Forest Products Laboratory), which stressed the importance of improving the dimensional stability of wood and outlined the possibilities of Impreg (phenolic, resin-forming chemicals), Compreg (resin-treated compressed wood), Staypak and Staybwood in accomplishing this, but recommended that further research be conducted along this line with the object of extending the usability of wood and prolonging the life of wood products.

W. J. Burton (Missouri Pacific) chairman of the committee on tie service records, presented the latest data on ties in the special test tracks on the Chicago, Milwaukee, St. Paul & Pacific at Madison, Wis., and Hartford.

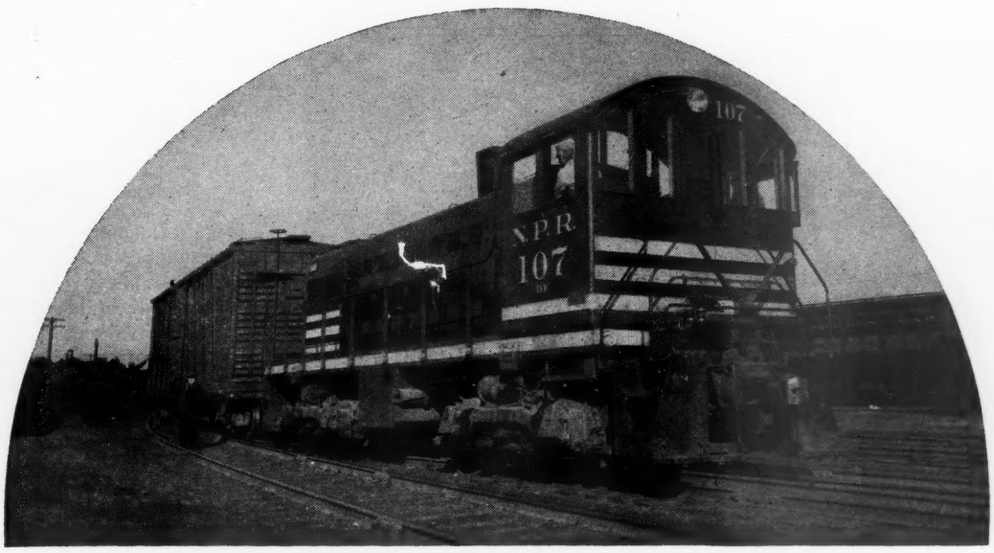
The committee on diversified uses of treated wood, of which Leonard Perez (Koppers Company, Wood Preserving Division) is chairman, presented a report outlining the new applications for treated wood. According to this report it is expected that municipalities, various state and national parks and farmers will become more important users of treated wood.

J. O. Blew (Forest Products Laboratory) chairman of the committee on post service records, reported progress and presented the latest data in conjunction with the numerous test installations that have been studied by this committee.

Field Marshal Viscount Alexander, Canada's new Governor General,

in the cab of the locomotive which he drove from Mont Joli to Rimouski during his trip to Ottawa to assume his new duties. Lord Alexander has had previous experience driving locomotives, both in the United Kingdom and, during the war, in Italy.

Over the Mountain with Diesel-Electrics

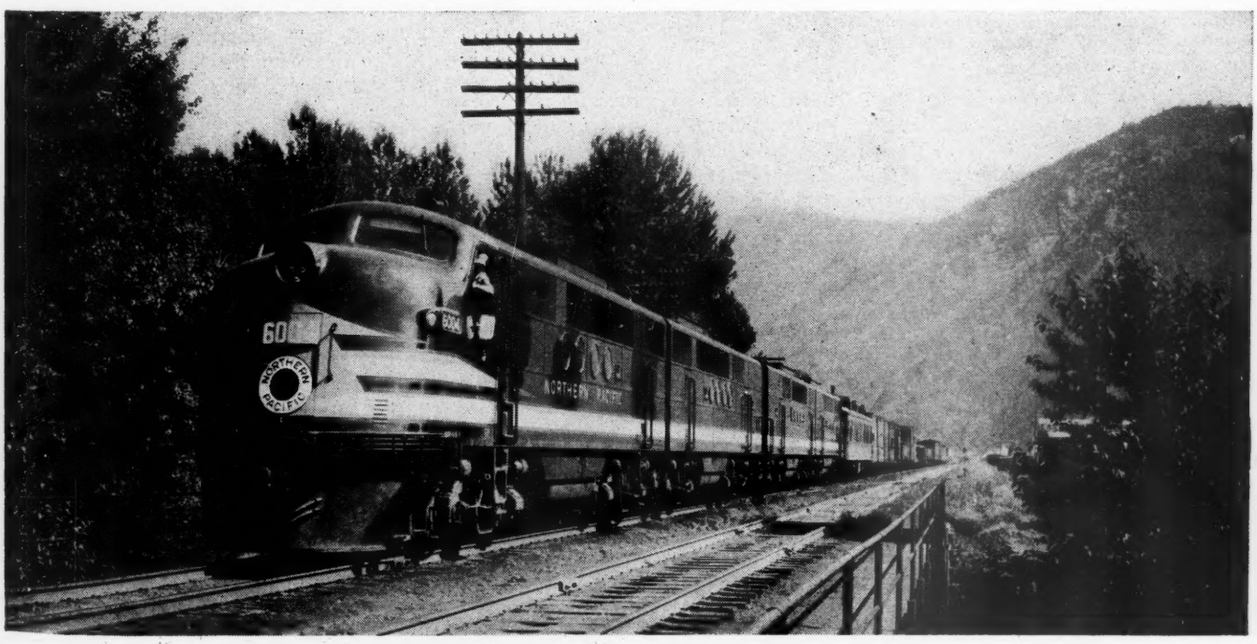


The Northern Pacific owns a sizable fleet of Diesel-electric switchers

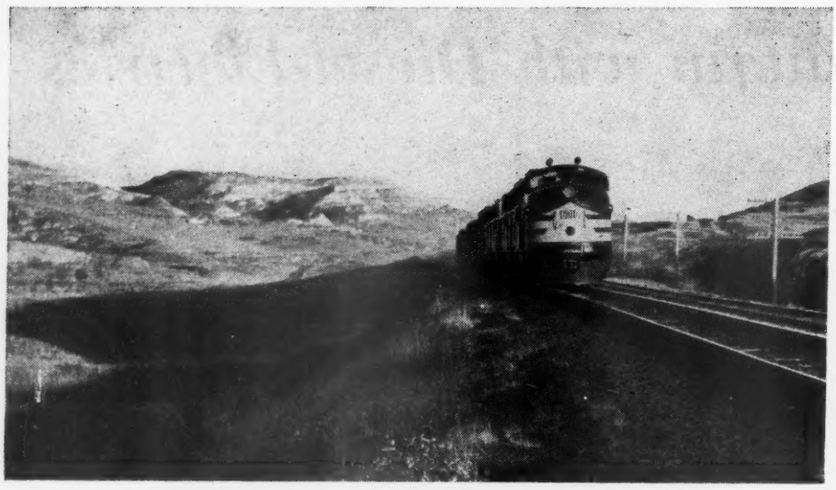
Northern Pacific uses them for handling heavy freight traffic through Cascades

FOR the six months ending June 30, 1940, the gross ton-miles handled by the Western lines of the Northern Pacific amounted to 380,789,299, as compared with 774,498,000 for the first six months of 1945. This large increase in traffic was, of course, because of the Northern Pacific's share of the war-time transportation intended for the Pacific theater of operations, and also for the rapidly industrialized Pacific Northwest which, from what was largely a producer of timber and agricultural products, became a beehive of activity during the war, with many industries, particularly shipbuilding plants.

Before the war the Western lines of the Northern Pacific, which include all



Diesel-electric road freight locomotives handled a sizable proportion of the Northern Pacific's war-time tonnage



The Northern Pacific operates Diesel-electric road freight locomotives through the Dakotas as well as in the mountains

lines west of Livingston, Mont., comprised an extremely well built and adequately powered railroad as far west as Easton, Wash., which is the west end of the fertile Yakima Valley apple-producing district. From that point over the Cascade Mountains to Auburn, Wash., the line was well built and completely adequate for peace-time traffic, but relatively the bridges and curvature restricted the movement of heavy locomotives far more than on other portions of the main line. The power used on this section of the road consisted of Mallet (2-8-8-2) compound locomotives of 89,500 lb. tractive effort, all of which were built between 1913 and 1920. These contrast particularly with the 4-6-6-4 4-cylinder simple articulated engines of 106,890 lb. tractive effort which took care of a large part of the freight service on the rest of the main line and which had been built and delivered to the N. P. between 1936 and 1944.

This lighter motive power was more than adequate to handle the traffic load over the Cascade Mountains in peacetime, but, as additional traffic to the Pacific Northwest developed during the war, it became apparent that, in order to lift this load over the Cascades, additional power would be necessary. Rebuilding the entire line was out of the question during war-time and the Northern Pacific found the answer to handling the heavy traffic load in the use of 5,400 hp. Diesel-electric road freight locomotives, both as through freight locomotives between Easton and Auburn and as helpers on the stiff grades on both sides of the mountain. The Northern Pacific had begun Diesel-electric operations with switching locomotives as early as 1938 and had acquired 53 Diesel switchers of 660 to 1,000 hp. and 4 locomotives of 1,000 hp. described as Diesel-electric road switchers. A list of these switchers is shown in the accompanying table. The Northern Pacific also has two Diesel-powered road freight locomotives (5,400 hp.) in operation between Glendive, Mont., and Mandan, N. D., a distance of 215.7 miles.

In seeking the answer to the problem of handling the heavy traffic over the Cascades, it was decided to use Diesel-electric road freight locomotives and 11 such locomotives of 5,400 hp. were purchased from the Electro-Motive Division of General Motors Corporation. These locomotives have a tractive effort of 225,500 lb., weigh 925,900 lb. each and have a wheel diameter of 40 in. The first of these locomotives was delivered in February, 1944, and was placed in service in April on the Tacoma division on the First district, which extends between Yakima, Wash., and Auburn, a distance of 139.6 miles.

Curvature a Problem

The most acute problem on the mountain section of this district was that light bridges and heavy curvature, plus adverse grades, held down the tonnage that could be handled and increased the number of trains it was necessary to operate to a point where the district was becoming congested. The problem was intensified by the fact that this district includes the Cascade tunnel of the N. P., which is single track and nearly two miles long.

Obviously, this single track through the tunnel connecting two stretches of double track railroad, and the fact that smoke and gas conditions made it further necessary to space trains through the tunnel at considerable intervals, limited the number of trains that could be operated and the speed of such trains. Under steam operations, the average gross tons per train-mile on the First district of the Tacoma division ranged between 2,700 and 2,800 tons, while the average under Diesel operation was increased to 3,300 to 3,400 tons. The average train-miles per hour on this district was also increased from 12 m. p. h. to about 13.5 m. p. h.

Under steam operation, the maximum tonnage that could be hauled by one of the steam locomotives then in service, with two steam helpers over the helper district, was 3,750 tons. The maximum tonnage under Diesel operation, with one Diesel helper on the helper district, is 4,500 tons.

In peace-time the predominating traffic movement on the N. P. is eastbound, but for the entire period of the war this flow of traffic was reversed.

Diesel-Electric Road Switchers

No. Units	Horsepower	Type	Wheels Diam., In.	Cyl. Diam. Stroke, In.	Tractive Effort, Lb.	Weight Lb.	Builder	Date Built
2	1,000	0-4-4-0	40	6-12½x13	60,600	242,500	Alco	1945
2	1,000	0-4-4-0	40	6-12½x13	61,900	247,500	Alco	1945

Diesel-Electric Switchers

No. Units	Horsepower	Type	Wheels Diam., In.	Cyl. Diam. Stroke, In.	Tractive Effort, Lb.	Weight Lb.	Builder	Date Built
3	660	0-4-4-0	40	6-12½x13	49,300	197,500	Alco	1940
1	660	0-4-4-0	40	6-12-¾x15½	49,800	199,300	Baldwin	1940
2	660	0-4-4-0	40	6-12-¾x15½	49,400	197,800	Baldwin	1942
1	660	0-4-4-0	40	6-12½x13	49,500	198,000	Alco	1945
1	900	0-4-4-0	40	12-8x10	63,100	252,600	Electro-Motive	1938
3	1,000	0-4-4-0	40	12-8½x10	61,500	246,000	Electro-Motive	1940
3	1,000	0-4-4-0	40	12-8½x10	61,100	244,400	Electro-Motive	1941
2	1,000	0-4-4-0	40	8-12-¾x15½	59,900	239,600	Baldwin	1941
11	1,000	0-4-4-0	40	6-12½x13	57,500	230,000	Alco	1941-2-3
2	1,000	0-4-4-0	40	8-12-¾x15½	59,200	236,900	Baldwin	1942
4	1,000	0-4-4-0	40	8-12-¾x15½	60,100	240,500	Baldwin	1944
4	1,000	0-4-4-0	40	8-12-¾x15½	60,300	241,300	Baldwin	1944
16	1,000	0-4-4-0	40	8-12-¾x15½	60,600	242,300	Baldwin	1945

Diesel-Electric Assignments

The normal assignment of the Diesel locomotives, under war-time conditions, was between Auburn and Yakima, 139.6 miles. Eastbound from Auburn to Lester, 43 miles, there is an ascending grade of 1 per cent. At Lester the 5,400 hp. Diesel locomotives used as helpers were switched into the middle of the train. From Lester to Stampede, 11 miles, there is an ascending grade of 2.2 per cent eastbound, followed by a descending grade, also of 2.2 per cent, for 9 miles to Easton.

The Diesel helpers were normally

operated between Lester and Easton, 20 miles, both east and westbound. They were not cut off at the summit as was the normal operation with steam helpers, for the reason that their availability for dynamic braking was of material assistance in getting the trains down the mountain on each side of the tunnel without hot wheels and other undesirable factors brought about by reason of the constant application of brakes directly to the wheels that was necessary when the train speed was controlled by air brakes only. It is the normal practice to handle the maximum of 4,500 tons on each train pulled by a Diesel locomotive.

Extended Runs

One of the additional advantages is that when the traffic that can be handled does not come up to the full capacity of the railroad, the Diesels can be operated through between Yakima and Pasco, 90 miles, and occasionally they are operated as far east as Spokane, thus making a run of 379 miles between Auburn and Spokane.

The terrain between Yakima and Pasco consists of a high plateau with few grades and the Diesels ordinarily handle 6,000 tons between Yakima and Pasco and 4,870 tons between Pasco and Spokane. These extended runs were made by one or two of the Diesels practically every day until late last fall, when the heavy homebound troop movement made it necessary to concentrate the activities of the Diesels in the Cascade mountain territory between Auburn and Yakima.

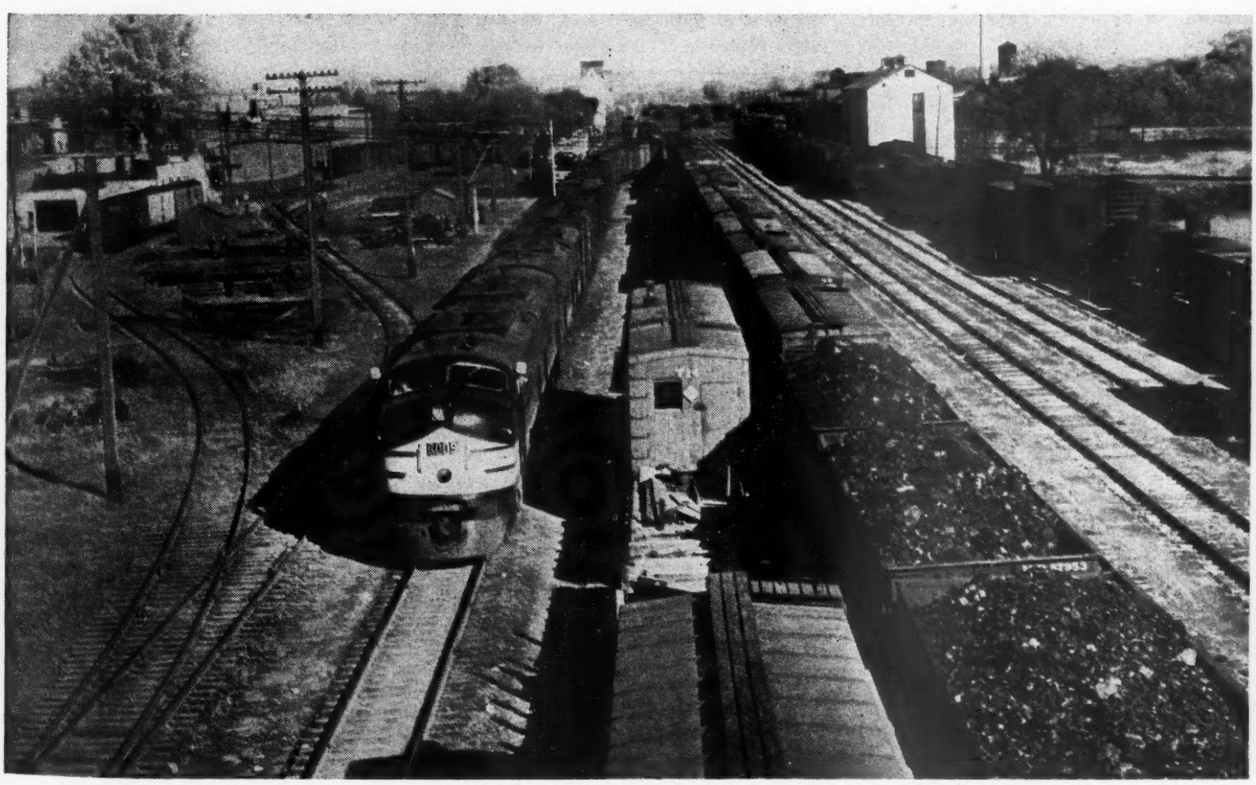
As previously stated, the Northern Pacific had considerable experience in the operation of Diesel switchers and also in the operation of two Diesel road freight locomotives in the relatively flat territory between Glendive, Mont., and Mandan, N. D. However, none of the engine crews on the Tacoma division had any background of Diesel operating knowledge. For this reason, in the early days of the operation it was necessary to supply a great deal of supervision on the part of road foremen of engines and others in order that the maximum transportation output per locomotive might be obtained. In addition to the railway supervision, representatives from the locomotive builders were also on the ground.

Diesel Maintenance

The two road freight Diesels operated between Glendive and Mandan were repaired in an addition to the machine shop at Glendive. However, with nine road Diesels operating over the Cascade mountains, it soon became apparent that the makeshift facilities supplied at the existing Auburn shops would be inadequate and inefficient. Therefore, almost simultaneously with the delivery of the first Diesel road locomotive on the extreme west end of the N. P., the construction of a modern shop building, designed expressly for the handling of repairs to Diesel locomotives, was begun.

This building was erected in accordance with the plans of the locomotive builder, modified by suggestions on the part of the N. P. mechanical officers. It is a modern building of brick and glass brick, and was completed late in November, 1944. It includes three service tracks capable of handling a four-unit Diesel under cover, and also includes a modern oil reclamation plant. This modern shop has proved adequate and efficient in supplying the necessary maintenance and repairs rapidly which reduces shopping time and permits the greatest possible utilization of the locomotives.

As might be expected, with three of the nine Diesels used in helper service, the locomotive mileage performance of the Diesel locomotives has not been as high as it would have been had miles employed been the sole guiding factor in determining how the Diesels were to be used. However, mileage comparisons are of no particular value in this case, as this particular operation of Diesels over the mountain is unique and has no parallel among any of the Diesel road freight locomotive operations on other railways. Even so, the average mileage of these Diesels is ranging between 6,500 and 8,000 miles per month.



A busy scene in war-time transportation on the Northern Pacific

Left—Engineer of locomotive No. 106 speaking over radio with the yardmaster at Flat Rock. Right—Emery Lee, Federal Communications Commission inspector, using radio in the Flat Rock yardmaster's office, while W. S. Halstead, consultant for the Farnsworth Television & Radio Corporation, looks on

D. T. & I. Tests Radio in Detroit

Two-way conversation is maintained between the yard office and switching locomotives throughout entire industrial area 14 miles long

THE Detroit, Toledo & Ironton, in cooperation with the Farnsworth Television & Radio Corporation, has conducted extensive tests of radio communication between switching locomotives and a yard office near Detroit, Mich. The territory extends about 14 miles north and east from the freight yards at Flat Rock to Dearborn and Delray, which are in the Detroit industrial area. The D. T. & I. has two lines in this area, one extending from Flat Rock north and then northeast to the River Rouge plant of the Ford Motor Company in Dearborn, and the second line running east from Flat Rock to the Detroit river, then along the river front to yards at Wyandotte, Ecorse and Delray, the latter being east of Dearborn.

Northbound road trains of the D. T. & I. terminate at Flat Rock yard, and southbound road trains depart from this yard. Therefore, the delivery of cars from this yard to various yards, industries and connections, as well as the return of cars to the Flat Rock yard, are all handled by switching crews that work under the jurisdiction of the yardmaster at Flat Rock. The purpose of the tests, therefore, was to determine whether radio communication could be applied successfully to maintain two-way conversation between the switch engines and the Flat Rock yard office. This area was selected for tests because of the numerous conditions which might interfere with the operation of such a system. For example, there are several steel bridges over the tracks, and many steel buildings near the railroad. Steel-reinforced concrete arches, installed years ago to support overhead catenary for electric traction, are spaced 300 ft. apart on 10 miles of the line between Flat Rock and Dearborn.

Basically the system is space radio operating at 161.775 mc., frequency modulation. Transmitter-receiver sets were installed at the yard office in Flat Rock and on two locomotives. To insure uniform coverage of the more remote area, regardless of the adverse conditions, a "satellite" station, including a transmitter-receiver set, was installed at Dearborn, 14 miles from Flat Rock, the two stations being connected by 189-kc. carrier current, superimposed on previously existing telegraph and telephone wires on the pole line paralleling the railroad. The 189-kc. carrier current on the line wires allows additional transmitters and receivers to be coupled to the wayside wires at any point.

Operating Procedure

The panel of the radio set on the yardmaster's desk at Flat Rock has a small switch which can be turned to either of two positions, "Local" or "Remote." His equipment includes one microphone and two loud-speakers. If he wants to talk to a locomotive that he knows is working in or near the Flat Rock yard, he throws the "Local" switch, which connects his space-radio transmitter-receiver set so that it operates only in connection with the antenna at that office. He then calls the locomotive, and talks with the engineman in the conventional manner.

On the other hand, if the yardmaster at Flat Rock wants to contact a locomotive that is working in the vicinity of Dearborn, Delray or Ecorse, he throws his "Remote" key, which establishes connections so that his microphone and the other loud-speakers function via the carrier current superimposed over the line wires between his Flat Rock office and Dearborn, at which point the "satellite" transmitter-receiver equipment operates in connection with the antenna at that location.

Normally the system as a whole is standing by, so that all calls come in over the loud-speakers not only in the locomotives but also in the yardmaster's office at Flat Rock. Calls from locomotives working in the yard at Flat Rock are picked up by the antenna at that office, and are reproduced by one of the loud-speakers in the yardmaster's office. Calls from locomotives in the vicinity of Dearborn and Delray are picked up by the antenna at the satellite station, and

transmitted by the carrier on the line wires to the office at Flat Rock, where they are reproduced on the second loudspeaker in the yardmaster's office.

On the double-track main line between Dearborn and Flat Rock, where overhead steel-reinforced concrete arches are spaced every 300 ft., it was expected that these arches might create "radio shadows," or interfere with reception of radio wave energy, but the very high frequency FM transmission and reception at these points was not affected.

At all points in the Dearborn and Flat Rock areas, strong signals were received on the locomotives and at the fixed stations, with none of the "fringe" conditions, such as "flutter" or unsteady signals being noticeable. In one preliminary test, "solid" two-way communication was maintained up to 29 miles southwest of the Flat Rock station, and the message could be copied up to 34.5 miles with the "squelch" open. Since the radiation patterns about each fixed station and locomotive extends in all directions, a total area of about 700 square miles is covered by the system.

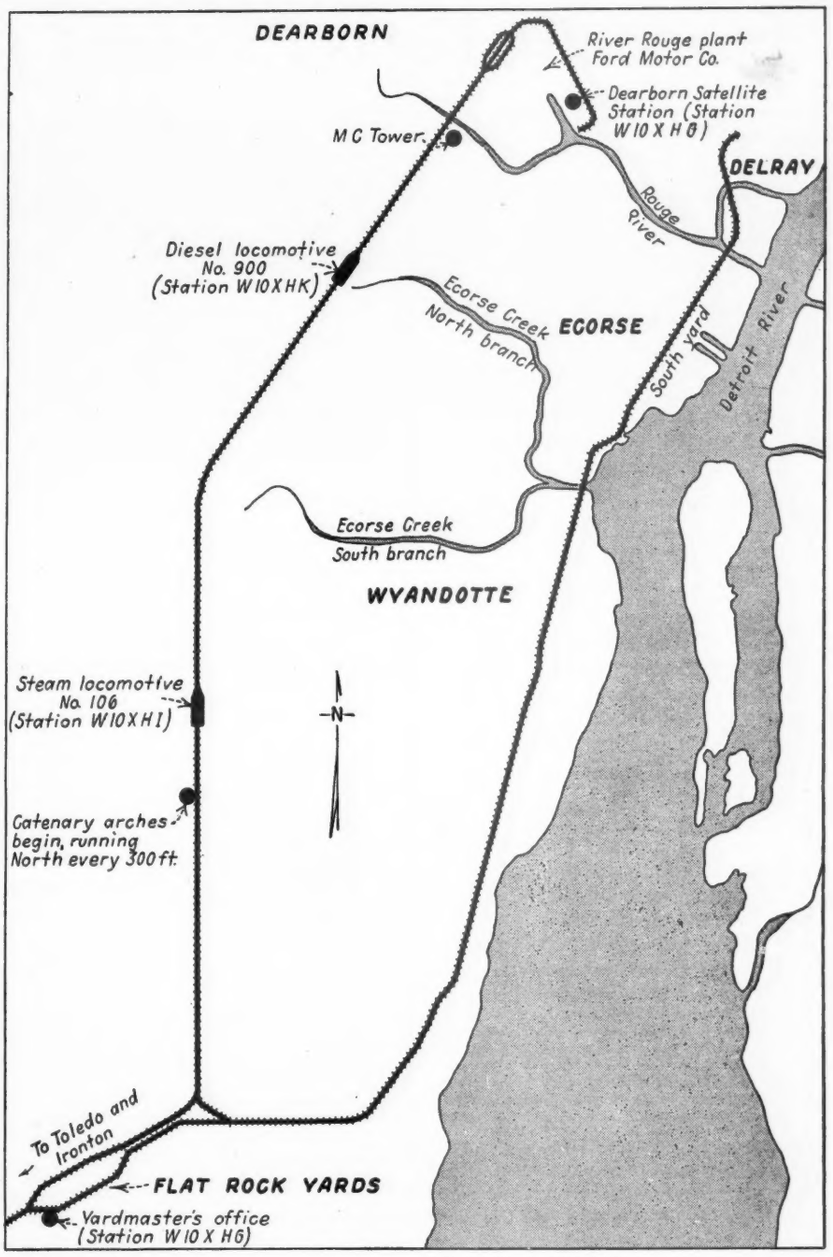
In another interesting test one locomotive was moved into a steel-frame locomotive maintenance building at the Ford plant, while the second locomotive was moved between two large steel buildings, with overhead crane structures, at the Murray Body Corporation in Detroit. Solid two-way communication was maintained from each of these locomotives with Flat Rock 14 miles south, and solid two-way communication was maintained between the locomotives except in one spot under the crane structure. A slight movement of the locomotive resulted in normal signal level being re-established. At the time of this test the air-line distance between the locomotives was approximately 3.5 miles.

The fixed station antenna, located 160 ft. above ground on top of a water tower, is an improved type, developed by Farnsworth, which resembles a coaxial antenna in external appearance. A cartwheel-type ground plane antenna 18 in. high is used on the steam locomotive, being mounted on the tender. This antenna is provided with a tuning circuit enclosed in a housing at the center of the ground-plane section. The antenna on the Diesel locomotive is an experimental type, under development by Farnsworth, having a height of less than 11 in. above the top of the engine hood. Because of its shape and size, it is referred to as the "fire-cracker" antenna.

The power consumption of the FM transmitting and receiving equipment at fixed and mobile stations is approximately 240 watts when transmitting, 180 watts when standing by, and 140 watts when receiving, using a 115-volt 60-cycle a.c. power supply. With a special 32-volt voltage-regulated dynamotor, of relatively low efficiency (about 40 per cent), the overall power consumption is approximately 450 watts when transmitting, 350 watts when standing by, and 300 watts when receiving.

The power supply unit on the Diesel locomotive is the dynamotor type operating on 64 volts d.c. from the locomotive storage battery which provides the filament and plate voltage. The power supply unit on the steam locomotive includes a rotary converter for operation on 32 volts d.c. from the locomotive headlight generator. This unit supplies 110 volts a.c. to a standard 110-volt a.c. radio power supply unit. Power supply units for fixed stations operate on 115 volts a.c. at 60 cycles.

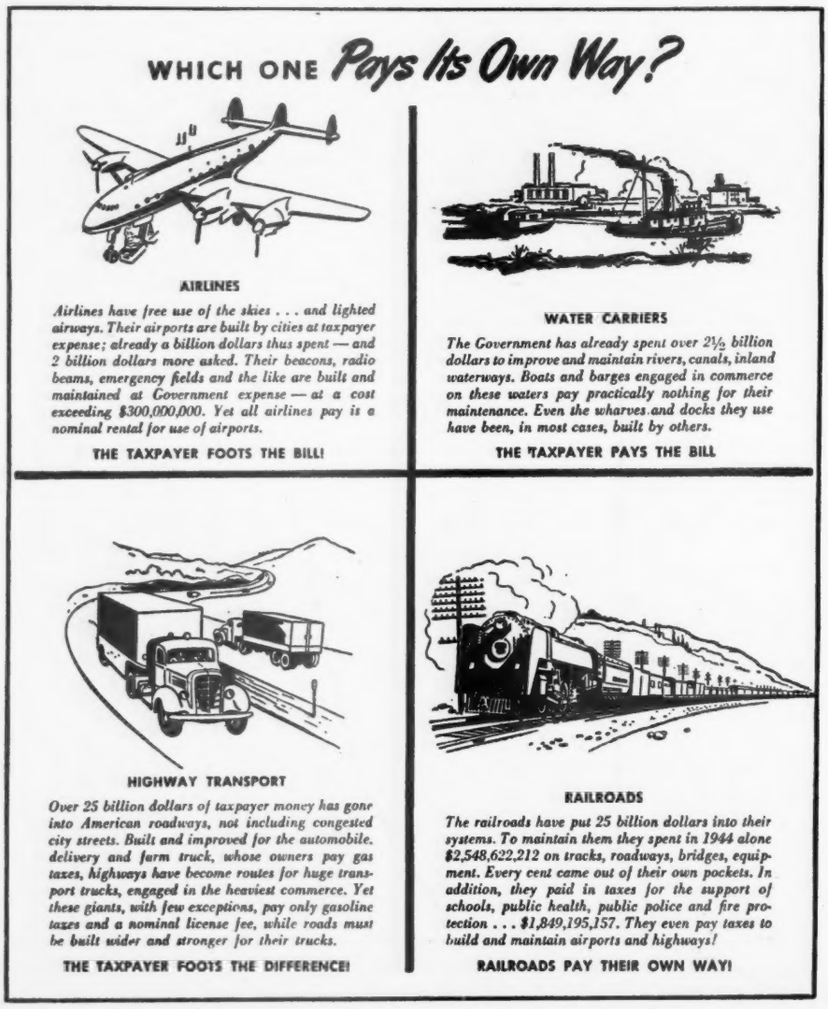
This installation and the tests were under the jurisdiction of William G. Clinton, signal and communications engineer of the D. T. & I. Mr. Clinton was assisted by H. C. Lorenzen, signal engineer and superintendent of telegraph of the Pere Marquette; M. F. Anderson, communications engineer of the Pere Marquette; and by Joe Gray, head of communications for the Ford Motor Company. The principal items of radio equipment and radio engineering services were furnished by the Farnsworth Television & Radio Corporation.



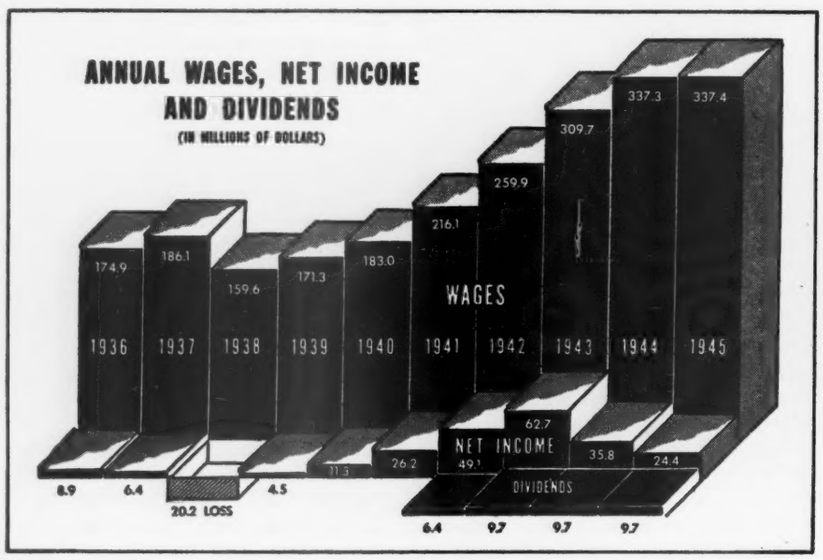
Map of the territory covered in the D. T. & I. radio tests in the Detroit area

Economic Facts Pictured for Employees

*By C. R. DUGAN**


WHICH ONE Pays Its Own Way?
AIRLINES
Airlines have free use of the skies . . . and lighted airways. Their airports are built by cities at taxpayer expense; already a billion dollars thus spent — and 2 billion dollars more asked. Their beacons, radio beams, emergency fields and the like are built and maintained at Government expense — at a cost exceeding $300,000,000. Yet all airlines pay is a nominal rental for use of airports.
THE TAXPAYER FOOTS THE BILL!
WATER CARRIERS
The Government has already spent over 2½ billion dollars to improve and maintain rivers, canals, inland waterways. Boats and barges engaged in commerce on these waters pay practically nothing for their maintenance. Even the wharves and docks they use have been, in most cases, built by others.
THE TAXPAYER PAYS THE BILL
HIGHWAY TRANSPORT
Over 25 billion dollars of taxpayer money has gone into American roadways, not including congested city streets. Built and improved for the automobile, delivery and farm truck, whose owners pay gas taxes, highways have become routes for huge transport trucks, engaged in the heaviest commerce. Yet these giants, with few exceptions, pay only gasoline taxes and a nominal license fee, while roads must be built wider and stronger for their trucks.
THE TAXPAYER FOOTS THE DIFFERENCE!
RAILROADS
The railroads have put 25 billion dollars into their systems. To maintain them they spent in 1944 alone $2,548,622,212 on tracks, roadways, bridges, equipment. Every cent came out of their own pockets. In addition, they paid in taxes for the support of schools, public health, public police and fire protection . . . $1,849,195,157. They even pay taxes to build and maintain airports and highways!
RAILROADS PAY THEIR OWN WAY!

Illustrations from the N. Y. Central's Report to Employees



IN a report for 1945 to its approximately 125,000 employees, the New York Central System issued on May 1 its third such annual accounting, enlarged from 8 to 12 pages this year in order more fully to illustrate to each employee his or her benefit in the successful operation of the company.

Coincident with the preparation of the report by the public relations department of the railroad, *Railway Age* in its March 2 and 23 issues published the results of its survey of railroad employee opinion regarding their industry. Because certain findings of the survey conclusively proved that an unsuspectedly large number of employees had no knowledge or inaccurate knowledge (1) of the seriousness of the threat to the railroads of competition from subsidized transportation and (2) of the huge share of wages in total railroad income, the New York Central revised its report to employees to provide additional graphic explanations of these facts.

Two charts are employed in the report to explain the comparative shares of wages and net income in total revenues. One of these charts is reproduced herewith. Explanation of the threat to railroad jobs by competition from other forms of subsidized transportation is given illustrated argument on the last full page of the report—which is also reproduced herewith, in reduced size and without the use of color which appears in the original.

It will be noted that the chart dealing with wages compares, by means of a block pattern, the amount of annual wages with net income and dividends paid to stockholders. Thus, using the year 1944, which was the revenue year used by *Railway Age* in its survey, the chart in the Central report to its employees shows wages of 337.3 millions as compared with net income of 35.8 millions and dividends of 9.7 millions.

This chart provides the railroad's correct answer to the survey query of "How are earnings shared?" Answers to this query revealed 46 per cent of employees thought that employees get the larger share; 35 per cent that stockholders get the larger share; 16 per cent had no opinion; 3 per cent gave qualified answers.

Another chart in the Central's report, showing the percentage of net railway operating income to investment in railway property, shows such earnings at 3 per cent for 1944.

* Manager, Public Relations, N. Y. Central.

This gives the railroad's answer to two questions in the survey. In one question —"What rate of profits did railroads earn in 1944?"—the largest number of responding employees believed 25 to 34 per cent was the rate of profit. In the other question—"What rate of profit should railroads be allowed to earn?"—the largest number believed 10 per cent to be fair.

The charts shown in the *Railway Age* survey and those from the railroad's report to its employees will be printed in the May issue of the company's employee magazine, "The Central Headlight," to give added emphasis to these important facts.

Competition from the subsidized transportation provided by airlines, water carriers and highway trucks is discussed in the Central's report, as shown in the accompanying illustration, under the question of "Which one pays its own way?" Beneath illustrations of each form of transportation concise information on how billions of public monies are spent for the benefit of airlines, water carriers and highway trucks is given. The tag line to each argument is "The taxpayer foots the bill!"

A sharp contrast with these subsidies, appearing under a fourth illustration on the same page, tells of the total investment in railroads and the amounts of money spent annually for their maintenance and for taxes to support all agencies of government. The tag line to this exposition is "Railroads pay their own way!"

The remainder of the report, printed in blue, black and white, and copiously illustrated by drawings for quick understanding, follows the pattern established by the two previous annual reports to employees. A large two-page, center-spread map of the system has been added.

The introduction to the report is a message from President Metzman reviewing the fine accomplishment of teamwork on the railroad during the last year of the war and expressing confidence that this teamwork, given the tools of new equipment now on order, can well face any challenge of the future.

* * *

Preventing Newsprint Damage

A NEW method for preventing damage to newsprint rolls in transit, so simple in conception that nothing more than an old rubber motor-car tire and a hammer and nail are required, promises to save the railways tens of thousands of dollars annually in claims. This method of shipping newsprint, although little more than six months old, has already proved successful. The method's originator is J. O. McKerrow, general traffic manager, Abitibi Power & Paper Co., Toronto, Ont. The most prevalent cause of damage was that of flat rolls and crushed cores, which in some cases reached the total of 30 per cent of the number shipped. This caused not only a big loss to the railway carriers but, with war-time shortage of paper, deprived newspapers of much-needed newsprint.

Under this system, old rubber motor-car tires are used as shock absorbers at each end-wall of the box cars. All the time needed to install them is that required to nail the tires to the end-walls of the cars at approximately the center of the roll. Then, when the car receives a sudden shock, the rolls are automatically cushioned against damage in their shift against the end-walls.

So successful has been the tire experiment against damage in transit that damage reports indicate a drop from some 30 per cent to a figure almost negligible. One of the latest reports received by Mr. McKerrow showed that out of 30 cars shipped, from one of the seven Abitibi Canadian mills to an American customer some 1,500 miles distant, not a single roll of paper was found to be damaged.

New systems for the protection of newsprint against damage in loading and transit have been the subject of almost continuous study by railways, newsprint manufacturers and publishers for years. The most common types of damage in transportation were:

Rubbed, or chafed rolls, usually the result of rolls rubbing together or against car walls.

Cut rolls, caused by contact with nails in car walls or floors, against sharp edges of bracing or blocking, or the presence of foreign matter in the car.

Split edges, caused by contact with blocking, or irregular, or worn floor decking.

Starred rolls (rolls slightly out of round but cores not crushed), caused by impact of roll against roll, against end walls of car, or against blocking and bracing.

Flat rolls (rolls definitely out of round with cores crushed), caused by overspeed impacts due to similar causes as those of "starred rolls." This type of damage has been the most serious and caused the most trouble to receivers of newsprint paper, and it is the type of damage which the rubber tires are preventing.

For many years the "toe-block load" was the only method of loading in general use. This type of loading consisted of stowing rolls together lightly. The "key rolls" in the doorway area of the car were blocked at the bottom with wood toe blocks about 4 in. high, spiked to the car floor.

A study of the tight toe-block load

A roll of newsprint averages about 1,600 lb. and is easily damaged under improper handling

revealed many weaknesses and potential sources of damage, such as: Securing of the roll at the bottom only, which is contrary to the standard practice of applying bracing at or near the center of gravity of the article braced. Blocked at the bottom only, the roll is free to move forward at the top, setting up a rocking motion which, in many cases, results in the roll riding the toe-block, causing serious damage. The toe-blocks contact only a small area on the key rolls. Any movement of the load forces the key rolls against the toe-blocks, causing, in many instances, split edges, starred and flat rolls.

The tight-loading feature of this method also has its drawbacks, in that rolls in close proximity, when subject to vertical oscillation, develop chafing damage. The rigid securing of the load subjects the rolls to impacts that in most cases would be dissipated if the rolls were permitted some free movement. To correct the structural weakness of the toe-block load, additional bracing was placed in various positions to supplement the toe-block, but with indifferent success. In many instances, the failure of the auxiliary bracing caused serious damage. Changes in loading patterns were tried out with varying success, but damage reports remained unchanged.

Dissatisfaction with the increasing damage record brought about the decision to experiment with a loading method that would eliminate the toe-blocks and permit a restricted movement of the load. The loading method developed was termed the "loose load." The loading pattern, in most instances, was the same as applied to the toe-block load. To prevent the rolls from shifting against the doors with resultant damage to both the rolls and the car doors, a piece of lumber of suitable dimensions was installed across each door opening between the door posts flush with car walls. No other restriction against the movement of the rolls was applied.

About the same time the loose load was being tried out, experiments were being conducted with the "floating unit method," in which the rolls in each end of the car are tied together in two separate units, one in each end. The principle involved required some space in the doorway and each end of the car to permit a slight shift of the units, which spends the force and lessens the effects of shock. Another method developed was more or less of a compromise between the toe-block load and the loose load. This was the "key roll method" and embodies the principle of tight loading by banding the key rolls, at the center of gravity, in the doorway area. The key-roll method was followed by the "anchor-banded load." This method also embraced the tight-loading principle by the application of bands anchored to the car walls to prevent movement of the load.

Following a number of years of experiments in loading and securing by individual railways and manufacturers, the Association of American Railroads, Freight Claim Division, appointed a special Newsprint Committee to make a study of transportation damage to newsprint and its causes. Joint meetings were arranged with that committee and the Newsprint Paper Industry Committee. These meetings resulted in definite proposals being passed along to the Closed Car Loading Committee of the Operating - Transportation Division, A.A.R., for further study and the publication of standard recommended loading and securing practices.

A pamphlet entitled "Methods for Preparing and Loading Newsprint" was issued by the Association of American Railroads, in October, 1944, and received general distribution. The pamphlet recommends and describes three general methods of loading: "Loose Load," "Key-Roll Load" and the "Floating-Unit Load." Each of the three methods has now been generally adopted by newsprint manufacturers and publishers. Aside from the matter of loading, the improvement in the car spring arrangement, by the inclusion of non-harmonic friction springs, has been a large factor in the reduction of chafing damage to newsprint, by cutting down vertical oscillation.

The newest addition to the list of experiments is that of the "McKerrow System" and, although little more than six months old in practice, it already has achieved results that promise its adoption as a general practice.

* * * *

A Diesel-powered Northern Pacific freight train near Missoula, Montana

GENERAL NEWS

Burlington Trains in Rear-end Collision

Signals functioned properly, spacing was adequate, Flynn explains

Forty-five people were killed and 36 injured sufficiently to require hospitalization in a rear-end collision between two westward Chicago, Burlington & Quincy passenger trains at Naperville, Ill., 28 miles west of Chicago, on April 25. The accident occurred when the first train, No. 11, the "Advance Flyer," fast streamliner between Chicago and Omaha and Lincoln, Neb., stopped for inspection after one of the trainmen thought he observed something fly from under the train. A short time later it was struck from the rear by train No. 39, the "Exposition Flyer" for Colorado, Utah, and California points.

Both of these trains are scheduled to leave Chicago at 12:35 p.m. No. 11 is due at Downers Grove, seven miles east of the scene of the accident, at 12:56 p.m., while No. 39 is due there at 12:58 p.m. These trains are due at Aurora, nine miles west of Naperville, at 1:10 p.m. and 1:13 p.m., respectively, but are not scheduled to stop at either place. At the point of accident the Burlington has three main tracks, of which numbers 1 and 2 are signaled for train movements in either direction, while No. 3 is an eastward track only. Movements on all three main tracks are governed by signal indication without regard to superiority of trains.

According to information supplied by the railroad, these trains left Chicago on time and were operated on parallel tracks as far as Kedzie Avenue, (M.P.4.83) from which point both trains were routed over track No. 2, the center track, there being a 3-min. interval between them passing Downers Grove. The general speed restriction for the trains involved is 80 m.p.h. when operating through this territory on track No. 2. Approaching the point of collision from the east, the second signal to the rear can be seen for 5,123 ft., and it was displaying a restrictive (yellow) indication. It is 5,617 ft. farther to the next signal, which was displaying a stop indication. No. 11 was struck by the following train 934 ft. west of the latter (red) signal, or a total distance of 6,551 ft. beyond the distant (yellow) signal. In tests conducted immediately after the accident, the signals functioned perfectly, according to Edward Flynn, executive vice-president of the road, who said that a train the weight of No. 39 could have been stopped short of the red signal had the rules been observed. Burlington rules require that when a distant signal is displaying a restrictive indication, trains must reduce speed at once and move at "restricted speed" until the indication of the next governing signal can be determined. Restricted speed means "proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced."

The track at the point where the distant (yellow) signal can first be seen is on an ascending grade of 0.574 per cent for a distance of 60 ft., followed by an ascending grade varying from 0.574 to 0.12 per cent for a distance of 3,000 ft., and then by a descending grade of 0.10 to 0.14 per cent for a distance of 3,400 ft. While there was an equivalent ascending grade of 0.04 per cent between the distant and home signals, the track, for all practical purposes, may be considered level in that territory.

Eastward from the point of accident, the track is tangent for 934 ft. to the stop signal and for 906 ft. beyond, followed by a compound curve varying from 49 min. to 1 deg. two min. for a distance of 4,139 ft.

C. & N. W. Makes General Gray Public Relations Head

Major General Carl R. Gray, Jr., former director general of the Military Railway Service in the European Theater of Operations, and formerly executive vice-president of the Chicago, St. Paul, Minneapolis & Omaha, (a part of the Chicago & North Western system), has been elected vice-president in charge of public relations of the North Western, with headquarters at Chicago and St. Paul, Minn.

Monon Names Barriger President

On May 1 the Chicago, Indianapolis & Louisville emerged from bankruptcy after 13 years and 4 months in the hands of the courts, and John W. Barriger, III, manager of the combined Diesel Locomotive and Railroad divisions of Fairbanks, Morse & Company, has been elected president of the road, which continues to have headquarters at Chicago. With the approval of the Interstate Commerce Commission, Mr. Barriger will continue as vice-president of the Union Stock Yard & Transit Company.

Harold A. Smith, general counsel of the Monon, has been elected vice-president and general counsel. Verne Hewitt, assistant to the chief executive officer, becomes treasurer and assistant secretary, and E. C. Meyer, assistant controller, has been promoted to secretary.

With the election of officers the duties of H. D. Pettibone, trustee, and L. F. DeRamus, trustee and chief executive officer, were automatically terminated, although both will continue to serve the road for the next two or three months in advisory capacities.

Freight Car Supply Situation Analyzed

Less reliance on government, most modern equipment, urged by Plowman

There is no doubt as to the great need and demand for railroad transportation in the next five years or so, but beyond that nearby period the future of the railroads will depend to a great extent on their ability progressively to meet the requirements of commerce and industry, so that shippers will not find it necessary to turn to other forms of transportation for services which railroads can perform with greater efficiency. This was the warning voiced by E. G. Plowman, vice-president, traffic, of the United States Steel Corporation in an April 25 address before the New York Traffic Club.

No serious loss in rail transportation efficiency, or large reduction in mileage, was expected by Mr. Plowman, even if there should be several years of poor earnings and curtailed operations, but he declared that such optimism did not apply with equal emphasis to either the quality or the availability of freight cars. Shippers have come to take a proper car supply as a matter of course, he said, as a "natural right" enjoyed by them, "but there is, unfortunately, much doubt that this happy situation can continue."

The speaker listed five factors that now work against an easy and plentiful car supply; namely, poor condition of available cars; declining effectiveness of heavy-loading requirements; prevalence of the 5-day week in industry; resort to government priorities for loading; and the return of peace-time competitive conditions, both in industry and on the railroads.

It is, of course, well known that the total number of usable freight cars is less than it was five years ago, Mr. Plowman remarked, but it is not so easy to measure quantitatively the equally apparent drop in the condition of cars that are available, particularly of box cars. "The present shortage of lumber, aggravated by federal regulations, makes the supply of first quality box cars very much of a lottery," he added, and all freight cars, especially those requiring lumber for floors, are in worse condition than before the war.

Conditions Have Changed—An important aspect of the car supply situation, the speaker continued, is the change in loading and unloading conditions resulting from the end of the war. While hostilities were in progress, the extra costs of speed could be charged to war expense, but "it is

unrealistic to expect shippers and receivers to spend money for overtime, and especially for sixth and seventh day work each week, in order to speed up their freight car loading and unloading operations. They will not do it. As a result, the total number of cars required to handle the present and expected high level of peace-time business must be larger than would be true under war-time conditions."

Throughout the recent war, Mr. Plowman pointed out, the issue of "government-enforced preferential loading privileges often raised its ugly head," but never was permitted to "strike a death wound into our national transportation system." Since the war ended, however, he said, the government has experimented with loading priorities, notably in the case of export shipments of grain in connection with the foreign relief program. Such orders, he declared, "require discrimination in distributing an inadequate supply of cars," and if generally established would waste millions of car-days and thousands of yard switching-hours.

Competitive forces act to increase the demand for cars, in times of peace, the speaker explained, both because railroads are competing with each other for a reduced volume of business, as compared to war-time conditions, and because industrial and commercial enterprises make requests for cars to suit their individual needs, to meet which the railroads generally must build up pools of empty cars at many strategic points.

One suggested way in which railroads can attack the "present defective condition" of freight cars is their return, at least for the winter months, to the pre-war car service rules requiring cars to move to home lines. Regardless of the current difficulties in getting lumber and steel, Mr. Plowman said, "there can be no doubt that cars would be better repaired if the cars on railroad repair tracks were their own." Moreover, he observed, there would be an improvement in car purchasing policy, in that the types of cars acquired would more closely meet the present needs of on-line shippers, in many instances, if more cars were on home lines.

Favors One-Purpose Car — The speaker also commented upon three ways to make freight cars better. "They can be designed to perform their functions more perfectly; they can be made lighter; and their components may be improved in quality and design," he pointed out. Opportunities to reduce car weight were discussed at some length, and the speaker went on to urge more "exploration and exploitation" of the functionally-designed one-purpose car. Such designs have been subjected to various criticisms, he conceded, but "the important point is that such cars hold certain traffic to the rails that would otherwise move via other methods. The present low interest rates for money and the low maintenance cost of well-built cars make one-purpose cars a very good investment."

Mr. Plowman concluded his remarks with the suggestion that penalty demurrage charges be avoided as a device by which the government seeks to overcome the shipper's reluctance to pay for overtime and week-end work. "We seem to be at the point in this country where even the results of healthy competition become arguments for additional federal regulation and control," he said, but "the most effective remedy to apply to any undue accumulation of cars has been and continues to be the embargo."

"One thing is certain in this time of perplexity," he said finally. "Shippers and railroads must not fail to explore and try every arrangement and plan which can improve the efficiency and reduce the costs of transportation service. Improvement in the use of freight cars by heavier loading, faster loading and unloading of cars, and reducing the ratio of deadweight of equipment to revenue tonnage of freight traffic transported are imperatives."

A. A. R. Finds Roads with 29.6 Days' Supply of Coal

A survey of bituminous coal held by various principal railroads for company use shows that at the present time the roads have on hand 29.6 days' supply, the Association of American Railroads said on April 26. This compares with 39.5 days' supply on April 1, when stocks had been accumulated in anticipation of the miners' strike. On April 1, 1945, the railroads as a whole had 27.1 days' supply on hand, there being no impending cessation of mining during April last year.

"While it will be readily observed that, as a whole, the railroad fuel supply is at present comfortable," the A. A. R. stated, "some of the individual railroads' stocks are low, and steps have been taken to save fuel by reducing the number of freight trains and yard engines operated when this could be done without serious detriment to the service. Further savings are possible through curtailment of passenger train service, particularly the elimination of special trains and extra sections of regular trains, without seriously affecting service to the public. Obviously the fuel consumption has also been greatly reduced on railroads whose traffic normally includes a heavy volume of coal tonnage."

The Office of Solid Fuels Administrator has assisted several roads by turning over to them coal which was frozen by its order on April 1, the A. A. R. added. Further assistance from this source is possible as need arises, it was said.

New York Central Trains on Faster Schedules

In addition to restoring the 16-hr. New York-Chicago schedule of the "Twentieth Century Limited," the New York Central made numerous other readjustments in passenger train service, effective April 28, coincident with the shift to Daylight Saving Time in many of the cities on its lines.

A number of New York-Chicago trains which ran on 18-hr. schedules between these cities during the war have been speeded up one hour; these include the "Pacemaker," "Commodore Vanderbilt," "Advance Commodore Vanderbilt," and "Iroquois." The running time of the "Water Level Limited" between New York and Chicago has been shortened 45 min., while the "Southwestern Limited" and "Knickerbocker" will make the New York-St. Louis, Mo., run one hour and two hours faster, respectively, than under war-time conditions.

The "Genesee," which was operated as a daytime train between New York and Buffalo, N. Y., during the period when sleeping car runs of less than 450 miles were prohibited by the Office of Defense Transportation, has been re-established as an all-Pullman sleeping car train, leaving New York at 11:45 p. m., D. S. T., and arriving at Buffalo at 8:30 a. m. This train leaves Buffalo at 12:25 a. m., D. S. T., and arrives at New York at 8:50 a. m. The coach service which it afforded on its war-time schedule is provided on the "Knickerbocker" and "Ohio State Limited."

Improved service between Boston, Mass., and Chicago also has been arranged in the adjustment of schedules. The "New England States" has been speeded up 55 min., while the time of the "New England Wolverine" and "Paul Revere" has been cut 65 min.

Ontario Railway Changes Name

By act of the Legislature of the Province of Ontario, the name of Temiskaming and Northern Ontario Railway has been changed to the Ontario Northland Railway, and the name of the Temiskaming and Northern Ontario Railway Commission has been changed to the Ontario Northland Transportation Commission. The change became effective on April 9th, 1946.

Urges Observance of Rules on Auto Box Cars

Acting upon reports "showing numerous instances of mishandling," Chairman Warren C. Kendall of the Car Service Division sent an April 29 "mailgram" to railroad transportation officers, urging strict enforcement of outstanding instructions requiring that auto box cars equipped with loaders "be eliminated from any loading not actually requiring the special interior fixtures." Mr. Kendall said that increased loading requirements for these cars "have seriously tightened the supply," and "during the past few days there have been small deficiencies reported at certain locations."

William J. Cunningham Retires

The Harvard University Graduate School of Business Administration has announced the retirement, effective June 30, of William J. Cunningham, James J. Hill Professor of Transportation. After that date he will have the title James J. Hill Professor of Transportation, emeritus.

Professor Cunningham joined the Harvard staff as a lecturer on railroad operation in 1908, while he was employed by the Boston & Albany as a statistician. From 1910 to 1916 he was assistant professor of transportation, meanwhile serving as assistant to the president, first of the New York, New Haven & Hartford and later of the Boston & Maine. In 1916 he was appointed to the Hill chair, in which he is just completing thirty years of service.

Emergency Board Report Being Studied by Roads and Unions

Discussions between the Carriers' Conference Committee and representatives of the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Engineers began in Chicago on April 29 and were still in process on May 1, to consider the recommendations made by the presidential emergency board which reported on the dispute between the carriers and the two unions as to wages and working conditions. According to the board, wage increases of 16 cents an hour are justified in this case, as are changes in four working rules. The unions had asked for changes in 45 rules and an increase of 25 per cent, subject to a minimum of $2.50 a day. Spokesmen for both parties to the dispute declined to comment except to say that negotiations were still in process.

Green Bay Suit Dismissed

Circuit Judge A. F. Murphy, at Green Bay, Wis., on April 25 dismissed a suit brought by Aaron L. Biltchik and Florence Brill, both of New York, to force the Green Bay & Western to pay out $750,000 to holders of the railway's Class B debenture bonds. The plaintiffs based their suit on the grounds that the road's financial statement showed assets of $3,100,000 in excess of all liabilities, but attorneys for the railway countered with a claim that a financial distribution such as that involved in the suit was discretionary with the board of directors which had chosen to reinvest the money in the purchase of new equipment and improvement and repair of present equipment.

Raise Pay of Employees of Pullman Company

The Pullman Company has announced that it has completed agreements with several employee organizations providing for a 16 cent hourly wage increase retroactive to January 1. These agreements follow the awards recently made by the two arbitration panels in proceedings involving the railroads and 18 railway labor organizations. The organizations involved are the Independent Pullman Workers' Federation, the Pullman Car Employees' Association of the Repair Shops, the Pullman Clerks' Association and the United Transport Service of America (CIO).

D. A. Crawford, president of the company, said that wage adjustments are still in process of negotiation with the Order of Railway Conductors and the Brotherhood of Sleeping Car Porters. He also stated that similar increases in compensation will be granted other employees after such approval as may be required by governmental authorities has been obtained, and applied on the same retroactive basis.

T. P. & W. Offers to Arbitrate Differences with Unions

An offer to resume operations on the basis on which they were conducted at the conclusion of federal operation of the property, on September 30, 1945, subject to arbitration of four issues, has been made by the Toledo, Peoria & Western in a brief filed in federal district court in Peoria, Ill., before federal judge J. Leroy Adair. The brief was an answer to a petition asking the appointment of a receiver for the road filed by a group of shippers along the line as part of their effort to get the railway, which has been strike-bound since October 1, 1945, back in operation.

Contained in the petition was a cross-claim asking that the suit be dismissed as to the T. P. & W., and asking that the striking railway brotherhoods be held responsible. The brief also requested that the railway labor organizations be enjoined from acts of violence and from interference with the movement of trains. The four proposals which the road suggested be arbitrated are:

(1) Rules, rates of pay and working conditions; (2) determination of those to be regarded as employees and their seniority status; (3) right of employment by law or by contract of those who have engaged in acts of violence since December 28, 1941; and (4) whether or not there has been any dispute on and after October 1, 1945, within the meaning of the Railway Labor Act.

At hearings on April 16 and 17, George P. McNear, president of the T. P. & W., appeared as a witness, telling the court that he had never refused to participate personally in any conference with representatives of the brotherhoods and United States mediators, prior to federal seizure of the road. He asserted that it was the understanding of the railroad that the only issue involved on October 1, 1945, when the road ceased operation, was the question of re-employment of men accused of acts of violence in 1941 and 1942. He asserted that the company had never regained control of its property subsequent to the close of federal operation of the road on September 30, 1945, charging that the brotherhoods had taken over immediately.

Concerning the operation of a train on February 6 of this year, at which time two pickets were fatally shot by train guards at Gridley, Ill., Mr. McNear admitted that he authorized movement of the train but denied knowing of its personnel. This evidence was confirmed by R. B. Gifford, acting superintendent, who testified on April 23, that Mr. McNear had authorized operation of this train but did not know the composition of the crew. Mr. Gifford said that he (Gifford) did not place firearms on the train, but that, in view of previous troubles, he assumed that the crew members would be armed.

H. H. Best, general manager for the federal manager during the period of government operation, told the court on April 26, that the rules in effect on the property from 1937 to 1941 favored the road when compared with rules in effect on other roads. He said that the rules proposals of the brotherhoods were substantially the same as during the period of federal control. According to Mr. Best, the rules proposed by the company would not speed shipments over the road but would result in economies to the company. Summing up the rules proposals of the management, he said that under them the men would work longer hours and receive more pay than under so-called "standard" rules. Mr. Best also told of seeing numerous acts of violence against the road and its employees including assault on one employee and the shooting of another, during the strike period just prior to federal seizure of the road in March, 1942.

Numerous shippers also testified at the hearing presenting the court with evidence as to their losses resulting from non-operation of the T. P. & W. During the courses of the sessions, attorneys for the complainants told the court that they were not asking the court to find for or against either the road or its employees, but were merely attempting to force the restoration of train service on the line.

Requests Release of Box Cars from Tie-Handling Service

Chairman Warren C. Kendall of the Car Service Division, Association of American Railroads, has urged transportation officers to ask the purchasing agents of their roads to specify "load only in gondolas" when placing orders for ties. Mr. Kendall's April 24 circular on the matter recalled that during the early years of the war, when gondolas were in great demand, temporary restrictions directed that ties be loaded in box cars; but it pointed out that such restrictions were canceled some time ago.

He went on to say that a considerable number of roads are nevertheless still using box cars for loading ties beyond their rails, "despite the present critical box car supply." While the C. S. D. chairman's request was solely a box-car conservation measure, he did note that "several roads have advised that gondolas can be unloaded faster and more economically which is important in view of the labor situation."

March Truck Traffic

Motor carriers reporting to the American Trucking Associations, Inc., transported in March 1, 979,696 tons of freight, an increase of 13.4 per cent over the 1,746,482 tons transported in February, but a decrease of 10.2 per cent below the March, 1945, total of 2,204,552 tons. The A. T. A. index number, based on the 1938-40 average monthly tonnage of the reporting carriers, was 179.5 for March.

The foregoing figures, according to the A. T. A. statement, are based on reports from 215 carriers in 39 states. Approximately 78 per cent of all tonnage transported during March was hauled by general freight carriers. The volume in this category increased 12.1 per cent over February and was 8.6 per cent below March, 1945.

Transportation of petroleum products showed an increase of 14.5 per cent over February and a drop of 17.3 per cent below March, 1945, while iron and steel traffic showed an increase of 16.5 per cent and a decrease of 14.5 per cent, respectively. Tonnage in the transportation of miscellaneous commodities disclosed an increase of 8.3 per cent over February and a drop of 6.1 per cent below the March, 1945, figure.

G. N. Cuts Seattle-Vancouver Running Time to 4½ Hours

With two additional trains added to the run between Seattle, Wash., and Vancouver, B. C., the Great Northern has announced a new schedule which will cut the running time between the two cities to 4 hr. 30 min. The two new trains will perform local service between the two points thereby permitting the four present through

trains to operate under the new schedule. The previous running time was 5 hr. 30 min.

Under the new set-up, northbound passengers leaving Seattle will have their choice of three trains: the "Canadian" will depart at 8:15 a.m. and arrive in Vancouver at 12:45 p.m.: the "International Limited" will depart at 5 p.m. and arrive in Vancouver at 9:30 p.m.; and the new local, which will handle the bulk of mail and express, will depart at 7:15 a.m. and arrive in Vancouver at 1:15 p.m.

Southbound passengers leaving Vancouver also will have a choice of three trains: the "International Limited" will depart at 8:10 a.m. and arrive in Seattle at 12:45 p.m.; the "American" will depart at 5 p.m. and arrive in Seattle at 9:30 p.m.; and the new southbound local will depart at 4:15 p.m. and arrive in Seattle at 10:20 p.m.

North Western Restores Resort Train Services

Restoration of additional summer passenger train service from Chicago to Wisconsin and upper Michigan resorts has been announced by the Chicago & North Western, to commence on May 29, after a period of four years during which seasonal trains were not operated due to wartime conditions (except for operation of the "Flambeau" on week-ends only, commencing August 31, 1945).

Among the trains scheduled is the "Flambeau." From May 29 to July 3, inclusive, and from September 1 to 29, inclusive, this train will operate northward on Fridays and Saturdays only and southward on Saturdays and Sundays only. It will run daily from July 5 to August 31, inclusive.

Another North Woods resort train to resume service this year will be the "Indian Head Special" between Chicago and Drummond, Wis. Northbound this train will operate on May 29 and July 3, then beginning July 12 on every Friday until the last trip on August 30. Southbound trips will be made on June 2, July 7, then every Sunday through September 2. Like the "Flambeau," it will carry through coaches, lounge and dining cars.

Another change in north Wisconsin service is the restoration, on May 29, of through sleeping cars from Chicago to Drummond on the "Duluth-Superior Limited" northward and on the "North Western Limited" returning.

Says Disaster Impends in Tax-Free Competition

If Congress cannot devise a formula permitting privately financed transportation to serve the people and make a reasonable profit for investors, the country will face a most unpalatable alternative: the nationalization of transportation, with the nationalization of other industries to follow, Representative Harris, Democrat of Arkansas, a member of the House committee on interstate and foreign commerce, this week told a panel meeting of the 34th annual meeting of the United States Chamber of Commerce at Atlantic City, N. J.

The seven-man panel, presided over by Powell C. Groner, president of the Kansas City Public Service Company, Kansas City, Md., included Robert Lees, assistant to the chairman of Transcontinental & Western Air; Ralph R. Luddecke, traffic manager of Standard Brands; Carlton Meyer, assistant to the president of the New York Central; Lewis Parmalee, executive vice-president of the Atlantic, Gulf & West Indies Steamship Lines; Jack G. Scott, general counsel for the National Association of Motor Bus Operators; D. L. Sutherland, president of the Middle Atlantic Transportation Company; and Chester C. Thompson, president of the Amerıean Waterway Operators.

The comment on national transportation policy recently issued by the transportation and communication department of the United States Chamber of Commerce must be discussed further by the Chamber's member organizations, it was indicated in the course of the proceedings. The views thus set forth in response to the "questionnaire" distributed by the House committee on interstate and foreign commerce were summarized in *Railway Age* of April 13, page 775.

Mr. Meyer, in answer to one question of a suggested list of 21 which were discussed by various members of the panel during the four-hour session, said that the only remaining room for railroad consolidations is among the smaller roads of the nation. "It is my belief," he added, "that the importance of rail consolidation is highly overstated." Mr. Luddecke said that the shippers were interested in consolidation only to the extent that it offered them better service.

"I have been supplied some astounding figures which I consider trustworthy," Mr. Harris told the meeting. "They show there is $85,300,000,000 of capital invested in transportation in this country. Forty billions of this have been spent by the government for tax-free facilities which earn no return on the investment. Contrast this with the slightly more than forty-five billions of private capital invested in facilities which are taxed and which must earn a return for the investor. A study of these figures reveals the extent to which government is competing with its people."

The threat of nationalization is not merely a threat to transportation, Mr. Harris said. "Counting the employees of transportation companies and their families, we find a group of nine to twelve million voters. Nationalization of transportation, therefore, would make a huge addition to the government payroll and would provide a political party enough government payroll voters to swing any election. A party that nationalizes transportation would find itself entrenched in power for many generations."

Representation of Employees

The Brotherhood of Railroad Trainmen has replaced the Order of Railway Conductors of America as Railway Labor Act representative of conductors and assistant conductors employed by the Boston & Maine, according to the results of a recent election which has been certified by the National Mediation Board. The vote was 272 to 142.

In another election, the American Train Dispatchers Association was authorized to represent the entire craft or class of train dispatchers employed by the Chicago Great Western. At the time of the election, trick, relief and extra train dispatchers were represented by the association, while the chief, night chief and assistant chief dispatchers were without representation. The same association was chosen to represent train dispatchers employed by the Peoria & Pekin Union. These employees formerly were without representation.

The Brotherhood of Railway Clerks, by virtue of a 660-364 victory, has replaced the Employees Association of Western Weighing & Inspection Bureau as the representative of clerical, office, station and storehouse personnel employed by that bureau.

The results of another election find the Railway Employees' Department, A. F. of L., now representing mechanical department foremen and supervisors employed by the Florida East Coast. These employees formerly were without representation.

Telling Them Why

Among railroads that have undertaken to explain to employees exactly why layoffs are necessary, exactly why disturbances in the country's general economic health affect the size of the individual employee's pay check, is the Illinois Central. President Johnston's explanation of the effect of the bituminous miners' strike on that road's ability to keep men at work reads, in part, as follows:

"It will be recalled that reductions in Illinois Central employment were necessary in late January and early February by reason of work stoppages in steel and other industries. These stoppages delayed the delivery of materials used in our car and locomotive shops and caused layoffs in those departments.

"Now we are in the midst of a stoppage of coal mining, which naturally affects employment on the Illinois Central even more severely, since coal ordinarily provides more than a third of our freight tonnage and related employment and also affects the production and traffic of other industries. The results are measurable in three ways:

"First, many Illinois Central operations having to do with the movement of coal are rendered immediately unnecessary. This obviously includes work with switch engines, mine runs and coal trains, and—less obviously perhaps but no less certainly—it also includes a good deal of telegraphing, billing and other clerical work in our stations and other offices. It even reduces the amount of work needed in yards and roundhouses, shops and on the track. These effects are visible not only in the coal fields and on the coal-loading divisions but all over the railroad.

"Second, the shortage of coal resulting from the shutdown of mining interrupts the production and delivery of materials used on the railroad. These new shortages, coming so closely on the heels of the steel and other work stoppages, make it additionally necessary to suspend a good deal of our own work. This includes work vitally needed and not otherwise likely to be affected by the loss of coal traffic.

"Third, the reduction in coal and other traffic causes the railroad a substantial loss of revenue, and outgo has to be adjusted to income. The estimated April loss in coal traffic alone will be in the neighbor-

hood of $1,900,000. This amount of money would pay the wages for about 9,500 jobs at the average monthly rate. There is no prospect that this revenue loss can be offset later."

New Air Freight Service

A new type of high-speed door-to-door air freight service, at rates approximately 50 per cent below present air express rates, will be offered by Northwest Airlines and the Railway Express Agency beginning June 1, the two companies have announced. It will be the first coordinated air and rail service in the air freight field, it was disclosed as rates for the plan were filed with Civil Aeronautics Board.

Croil Hunter, president and general manager of the airline, and L. O. Head, president of the Railway Express Agency, said the arrangement will "meet unprecedented demands by small and large business for fast door-to-door air freight service at rates keyed to the country's need for a more economical transportation by air."

Rates are based on 30.7 cents per ton-mile, covering shipments of 100 lb. or more. The plan will provide for a complete shipping service at both airport and non-airport points. Consignments will be moved from shipper to consignee by air freight or at any point located off-airline by the coordination of truck, rail and air. Only a single receipt will be required. Packaging will be the same as for air express.

Air freight will be carried on scheduled daily Northwest Airlines flights between New York and Newark, N. J., in the East and Seattle-Tacoma, Wash., and Portland, Ore., in the West, and will be expanded still further early next year, according to the announcement.

"The merging of the freight plane service of one of the nation's oldest airlines and R. E. A.'s nation-wide ground facilities," said Mr. Head, "is the logical, practical and economical answer to the need for speedy air-ground transportation for the movement of heavy merchandise by air freight. For the first time, every city and town in the states served by Northwest Airlines will be able to take advantage of low-cost high-speed air freight service." He pointed out that the new service will supplement, but will not replace the present nation-wide air express service afforded over all scheduled airlines of the country.

Rail Adjustment Board Ready to Resume Activities

With an agreement reached between carrier and labor members after a nine-month tie-up, the National Railroad Adjustment Board is expected to resume operations within the next two weeks. At the end of that period it is believed that labor members of the board, who concentrated their efforts on clearing up 1,000 cases on the Atchison, Topeka & Santa Fe during the "deadlock," will have completed their task and will be ready again to take part in the normal functions of the board.

The long deadlock of the board came about on September 19 last when carrier members announced that they would not participate in the hearing of grievance cases until the unions involved presented written authority from each of the workers affected. This action was taken close upon the heels of a Supreme Court decision in which it was ruled, five to four, in a case concerning the Elgin, Joliet & Eastern, that no union can act exclusively for a group of workers in handling grievance cases unless each worker involved has given his individual authorization.

Some time later the high tribunal held a re-hearing and while still maintaining its previous decision by the same five to four vote, gave it a revised interpretation which prompted the carriers to resume their part in the board's activities. Actual resumption of the board hearings awaits only the call from R. A. Knoff, representing the carrier members, and William Bishop, representing the labor members.

Freight Car Loadings

Loadings of revenue freight for the week ended April 27 totaled 659,952 cars, the Association of American Railroads announced on May 4. This was an increase of 9,209 cars or 1.4 per cent above the previous week, a decrease of 239,998 cars or 26.7 per cent below the corresponding week last year, and a decrease of 190,489 cars or 22.4 per cent below the comparable 1944 week.

Loading of revenue freight for the week ended April 20 totaled 650,743 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, April 20, 1946

District	1946	1945	1944
Eastern	142,919	167,226	162,525
Allegheny	124,365	193,039	189,840
Pocahontas	15,777	54,239	54,921
Southern	114,719	132,129	124,904
Northwestern	79,417	117,845	116,260
Central Western	110,644	127,471	116,094
Southwestern	62,902	72,751	74,193
Total Western Districts	252,963	318,067	306,547
Total All Roads	650,743	864,700	838,737
Commodities:			
Grain and grain products	34,396	51,299	37,976
Livestock	18,605	15,401	15,544
Coal	29,709	165,196	173,922
Coke	7,083	14,488	14,744
Forest products	45,086	42,542	43,495
Ore	12,269	61,147	60,131
Merchandise l.c.l.	128,216	113,820	107,055
Miscellaneous	375,379	400,807	385,870
April 20	650,743	864,700	838,737
April 13	649,194	847,013	798,683
April 6	644,663	765,672	787,985
March 30	809,142	836,000	786,106
March 23	804,606	816,741	777,578
Cumulative total, 16 weeks	11,677,159	12,555,615	12,654,258

In Canada.—Carloadings for the week ended April 20 totaled 60,536 cars as compared with 66,850 cars for the previous week and 70,525 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 20, 1946	60,536	32,427
April 21, 1945	70,525	38,882
Cumulative Totals for Canada:		
April 20, 1946	1,058,137	561,660
April 21, 1946	1,055,669	596,303

Club Meetings

The Railway Business Woman's Association of Chicago will hold its annual spring luncheon at the Edgewater Beach hotel on May 11. Presentation of a miniature operetta will be a feature of the meeting.

The Northwest Car Men's Association has scheduled a meeting for May 6, to be held at 8 p.m. at 1931 University Avenue, St. Paul, Minn. Hugh Christie, railroad consultant for the Whiting Corporation, will give a talk illustrated by slides on "Single Screw Drop Tables," "Electric Portable Jacks" and "Mechanical Car Washers."

A meeting of the Eastern Car Foremen's Association has been scheduled for May 10 at 8 p.m. to be held at 29 West 39th street, New York City. A program of motion pictures has been arranged which will include "A Great Railroad at Work" and "This is New England."

Dr. Louis E. Endsley, consulting engineer, Pittsburgh, Pa., will speak before the Chicago chapter of the Railway & Locomotive Historical Society, May 10, on "The Diesel Locomotive and its Relation to the Future." The meeting will be held in Room 1200, 205 West Wacker Drive, Chicago, at 7:30 p.m.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION. — J. F. Gettrust, P. O. Box 5522, Chicago 80, Ill. Exhibit in connection with meetings of Coordinated Mechanical Associations, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS. — E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo. Annual meeting, June 25-27, 1946, Hollenden Hotel, Cleveland, O.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, June 6-8, 1946, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION. —O. K. Quivey, B. & O. R. R., Baltimore 1, Md.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.— Works in cooperation with the Association of American Railroads, Engineering Division.— W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Virginia Tanner, Baltimore & Ohio Magazine, Room 1202, B. & O. Bldg., Baltimore 1, Md.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.— J. P. Nye, Tower Bldg., Washington 5, D. C. Annual meeting, October 2-3, 1946, Morrison Hotel, Chicago, Ill.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS. —C. E. Davies, 29 W. 39th St., New York 18, N. Y.
Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill.

AMERICAN TRANSIT ASSOCIATION.—A. W. Baker, 292 Madison Ave., New York 17, N. Y.

AMERICAN WOOD-PRESERVERS' ASSOCIATION. — H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.— R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—H. S. Whited, 5th & T Sts., N. E. Washington 2, D. C. Annual meeting October 8-10, 1946, Boston, Mass.

ASSOCIATION OF AMERICAN RAILROADS. — H. J. Forster, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.—Clark Hungerford, Vice-President, Transportation Bldg., Washington 6, D. C.

Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.

Communications Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y. Annual meeting, September 10-13, 1946, Hotel Statler, Detroit, Mich.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, October 28, 1946, Hotel Sherman, Chicago, Ill.

Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, June 25-27, 1946, George Vanderbilt Hotel, Asheville, N. C.

Safety Section. — J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, June 10-12, 1946, Hotel Statler, Cleveland, O.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, October 14-16, 1946, New Ocean House, Swampscott, Mass.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 20-21, 1946, Congress Hotel, Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 22-24, 1946, Hotel Sherman, Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C. Annual meeting, June 20-21, 1946, Palmer House, Chicago, Ill.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, May 21-23, 1946, Hotel Sherman, Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.

Car Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation Department—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting, June 18-21, 1946, Mount Washington Hotel, Bretton Woods, N. H.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill. Annual meeting, June 5-6, 1946, Hotel Pfister, Milwaukee, Wis.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill. Exhibit in conjunction with American Railway Bridge & Building Association Convention, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph J. Feddor, 2803 N. Campbell Ave., Chicago 18, Ill. Regular meetings, second Monday of each month, except June, July and August. La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION. — W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION. — A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, November 12-15, 1946, Los Angeles, Cal.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—W. B. Shepherd, Aluminum Company of America, Gulf Bldg., Pittsburgh 19, Pa. Annual meeting, October, 1946.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB. — D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION. — E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB. — William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Calif.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Illinois.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill. Next meeting, October 22-24, 1946, Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section, of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo. Annual meeting, May 28-29, 1946, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill. Exhibit in connection with Roadmasters' and Maintenance of Way Association Convention, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 225 Bidwell Ave., Westerleigh, Staten Island 2, N. Y. Annual meeting, October 12-13, 1946, Baltimore, Md.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

A list of current publications will be found on page 948.

* * *

Better Knock the Fire, Harry

Historical Note: The pioneer locomotive "Best Friend of Charleston" exploded on June 17, 1831, when the fireman tied down the safety valve and sat on it

With the Government Agencies

Testimony to End on Bulwinkle Bill

Fletcher, Kerr, Buford heard as rebuttal witnesses by Senate committee

Hearings before the Senate interstate commerce committee on H. R. 2536, the so-called Bulwinkle bill, passage of which would exempt railroads from anti-trust laws with respect to rate-making procedures, moved toward a conclusion this week following rebuttal testimony by a group of proponent witnesses headed by R. V. Fletcher, vice-president in charge of research of the Association of American Railroads. Hearings on the measure, which started before the Senate committee on March 20, were expected to end on or before May 3.

Extends Immunity Certificate to July 1

Administrator J. D. Small of the Civilian Production Administration this week further advanced from May 1 to July 1 the expiration date of Certificate No. 44, which was issued in March, 1943, by the chairman of the former War Production Board to give carrier rate bureaus and other joint-action arrangements war-time immunity from the anti-trust laws.

Judge Fletcher, who also appeared before the committee on March 20, as reported in *Railway Age* of March 23, page 654, testified this week that the railroads, in petitioning the Interstate Commerce Commission for a 25 per cent general increase in freight rates, acted contrary to the Justice Department's interpretation of the "area of collaboration" permitted by the anti-trust laws. He said he could not find any difference between the carriers jointly proposing horizontal rate increases and the "other cooperative actions" about which the Department of Justice complains.

Referring to a statement wherein Wendell Berge, assistant attorney general in charge of anti-trust law prosecution, declared that railroads cannot agree on rates under any circumstances, Judge Fletcher said that "it is a matter of common knowledge that railroads got together and agreed to put in the petition for higher rates after the wage boards awarded a 16 cents per hour increase." He added that he "failed to distinguish any difference between this action and the other practices about which the Justice Department complains." Justice Department representatives present at the hearing intimated that the department would present its views to the I. C. C. during the hearings on the railroads' freight increase petition which opens on May 6.

Disagreeing with Judge Fletcher's interpretation of the Justice Department's position, Committee Chairman Wheeler, Montana Democrat, said that he could not conceive of the department claiming that railroads would be violating the anti-trust laws by filing the freight raise petition.

"The Department of Justice is trying to break up the rate bureaus," Judge Fletcher continued. "Mr. Berge stated before this committee that under no circumstances can the railroads agree on rates."

"That's something you are going to the courts about," Senator Wheeler said.

Declaring that the I. C. C. is the proper tribunal to pass on rates, Judge Fletcher added that those who have contended that passage of the Bulwinkle bill should be postponed until the Supreme Court has decided on the Georgia case are "really advocating regulation of the railroads by the Department of Justice."

Would Subordinate I. C. C.—"The effort is to defeat the jurisdiction of the I. C. C. and to give authority to the Department of Justice to regulate the carriers," he asserted. "The department is not equipped either by experience or by the very nature of its functions to act administratively in matters of this kind."

Referring to previous testimony that passage of the bill would adversely affect the anti-trust suits filed against the railroads by the state of Georgia and by the Department of Justice at Lincoln, Neb., Judge Fletcher said that the recent action by the Supreme Court in the Georgia case showed that the court would consider only two issues, the charge of "coercion" by the railroads and the charge of "invidious discrimination" against the state.

Discussing the proposed measure in detail, Judge Fletcher said that "the committee could form a good idea of the regulations, rules and limitations which the commission would probably write into any order approving rate bureau agreements." The restrictions are included in the rules of Certificate 44, which immunized railroads from anti-trust legislation during the war.

"The rules would prohibit coercion, boycotting or any action which would interfere with independent action on the part of any carrier," the A. A. R. vice-president continued.

"If the railroads want to be exempted from the anti-trust laws to make agreements on rates and other practices, they will have to submit to more regulation by the I. C. C.," Senator Wheeler told the speaker. "How far do you want the I. C. C. to regulate you? Do you want to confine it to

(*Continued on page 929*)

Sets Hearing on Plea For Quick Rate Relief

I. C. C. moves to consider request to make increase effective May 15

While assigning for public hearing on May 6 that phase of the railroads' Ex Parte 162 petition which seeks authority to publish tariffs making the proposed 25 per cent freight-rate increase effective May 15 on one day's notice, the Interstate Commerce Commission has also reopened the Ex Parte 148 proceeding for further hearing at the same time to determine whether immediate relief to the railroads should take the form of restoring the increases originally authorized in that proceeding and suspended since May 15, 1943. The hearing will be held in Washington, D. C., before the commission's Division 2.

The railroads' Ex Parte 162 petition mentioned the Ex Parte 148 freight-rate increase which was in effect from May 18, 1942, until its suspension on May 15, 1943, and said that it averaged about 4.7 per cent. Meanwhile, the Ex Parte 148 decision also authorized the 10 per cent increase in passenger fares, which is scheduled to expire six months after the legal termination of the war but which the railroads are now seeking to continue in effect without expiration date.

Immediate Relief the Issue — The commission's orders setting the May 6 hearing date came while it was receiving numerous replies to the railroad petition, practically all of them asking that the request for authority to make the proposed increases effective May 15 in advance of a full hearing be denied. The orders as well as an accompanying notice from I. C. C. Secretary W. P. Bartel emphasize that the hearing is only for the purpose of deciding the question of immediate relief. As Secretary Bartel put it, "All other questions presented in the petition . . . . will be deferred for hearing in regular course at the times and places hereafter to be announced."

Mr. Bartel also said that the commission had decided on this procedure "in view of the representations made by the railroads . . . . that a critical situation has developed which calls for a substantially higher level of freight rates and charges . . . ." With respect to the reopening of Ex Parte 148 he said that the commission in that connection acted "for the purpose of determining whether or not the suspension now in force . . . . . should be lifted and the increases, with whatever changes or modifications therein may appear to be just and reasonable, permitted to go into effect promptly in lieu of the approval of the

request under Ex Parte No. 162 for an immediate 25 per cent increase in rates and charges."

Mr. Bartel went on to say that the commission expected that all testimony offered at next week's hearings "will be confined to the sole issue as to whether or not petitioning railroads are entitled to an immediate increase in revenues through the imposition of increased freight rates and charges." He warned that, because the available time is "very short," the commission "will have to apportion it closely." Thus parties having common interests "must arrange to consolidate their presentations, both of evidence and oral arguments, and all duplication or cumulation of evidence must be avoided."

The rules of practice announced in Ex Parte 148, as amended, will apply. Persons desiring to appear as witnesses were expected to so advise the commission by May 3, but the Bartel notice added that the commission "urges that for the purposes of this hearing, use may be made of verified statements instead of the testimony of witnesses in person." Oral argument will follow immediately upon the completion of testimony, and arguments in the form of memoranda will be received.

As noted above, the commission has received numerous replies to the railroad petition, including that of the National Industrial Traffic League, which was noted in the *Railway Age* of April 27, page 878. The League sought denial of that part of the petition which would make the proposed increase effective May 15 in advance of full hearing. A similar position was taken by various other organizations from which replies were received, including state commissions, shipper groups and the Secretary of Agriculture.

The Office of Price Administration, which was one of the principal protestants in the Ex Parte 148 proceeding, filed on its own behalf and on behalf of the economic stabilization director a reply asking that no increase be authorized without hearing and that any advance permitted after hearing be only "the minimum required by law."

O. P. A. Opposes Haste—"Stressing the inflationary dangers," as its press release put it, the O. P. A. reply asserted that "a final determination of the general level of railroad freight rates and passenger fares appropriate for the post-war period can be reached by the commission on a far sounder basis a year hence when, if the disaster of inflation is escaped, the nation should be reaching its goal of stable, high-production economy."

Earlier the reply had said that the railroad petition "creates a serious hazard for the government efforts to achieve national economic stability," because it comes "at what may well prove to be the decisive stage in the long battle against inflation." It is conceded that the railroad industry "is entitled to have its claim considered fully and with expedition," but the "haste" to obtain the increases without hearing is said to be "wholly without warrant.' "

The railroads' case, as O. P. A. sees it, involves more than determining the amounts of increased costs which the carriers have sustained, for the "keystone" of their contentions "is a pessimistic view of general business activity during the next few years, and the estimate of the level of the railroads' revenues resulting therefrom." To O. P. A., this "pessimism" appears "without foundation in the face of the fact that civilian industrial production already has moved above any peacetime record, and the further fact that the vast backlog of unsatisfied demand can be sustained by a fund of over 200 billion dollars in liquid savings."

Thus the price agency thinks the commission "should scrutinize the railroads' depressed estimates of volume of traffic." O. P. A.'s "limited opportunity" to examine data submitted by the carriers leads it to believe that "certain of the figures and the inferences drawn therefrom will not stand close scrutiny."

Moving to keep their rates in line with any increase which the commission may award the railroads, 33 freight forwarders this week filed a petition for short-notice authority to advance all their rates and charges by 25 per cent, but in any event not less than by the percentage increase granted the railroads.

The forwarder petition points out that the petitioners utilize the services of the railroads, paying the latter's published charges, all of which are sought to be increased. It adds that charges paid by forwarders to motor carriers have increased materially during the past year; and that forwarders "during the past several years have been in a most precarious, if not desperate, financial condition."

Other petitions seeking 25 per cent increases have come to the commission from water carriers, including a group of Atlantic coastwise and Atlantic-Gulf common carriers and the Mississippi Valley Barge Line.

Lower Courts Found Too Ready to Act Ahead of I. C. C.

Deciding two cases in which it granted review "because of the importance of the problem in the administration of the Interstate Commerce Act and the Bankruptcy Act," the Supreme Court of the United States this week overruled lower courts which had decreed forfeiture of a lease and cancelation of a trackage rights agreement held by railroads undergoing reorganization. In both cases the Supreme Court held that the actions of the lower courts were premature in that they came in advance of consideration of the matters involved by the Interstate Commerce Commission.

The lease-forfeiture issue arose in *Forrest S. Smith, Trustee of the Property of Hoboken Manufacturers Railroad Company vs. Hoboken Railroad, Warehouse and Steamship Connecting Company, and Hoboken Land and Improvement Company,* while the cancelation of the trackage rights agreement was involved in *Guy A. Thompson, Trustee, The St. Louis, Brownsville and Mexican Railway Company vs. The Texas Mexican Railway Company.* Both opinions were unanimous decisions of the court, written by Justice Douglas.

As the Hoboken case opinion points out, the "major part" of the Hoboken Manufacturers' right of way and line of railroad was held under a 99-year lease dated June 19, 1906, from the Warehouse Company when H. M. reorganization proceedings under section 77 of the Bankruptcy Act got under way in 1943. Acting under the lease's forfeiture clause, the Warehouse Company moved to have it terminated, and the reorganization court granted the motion, its ruling in that connection being affirmed by the Circuit Court of Appeals.

Since the lease contained an express covenant of forfeiture in the event the lessee became involved in bankruptcy proceedings, the Supreme Court ruled that such covenant was enforceable against the trustee, but it nevertheless went on to its finding that the reorganization court should not have declared the forfeiture until the matter was passed upon by the commission. The commission was found to have the original jurisdiction with respect to two aspects of the problem—the one relating to the authority which the Interstate Commerce Act gives the commission over an abandonment of operations by the trustee, and the other relating to its functions under section 77 of the Bankruptcy Act to prepare the plan of reorganization for H. M.

Relief Available to Lessor—Mention is made of the fact that the Warehouse Company's application for authority to resume operation of the leased properties was dismissed by the commission with a finding that no certificate was needed because the lessor's obligations had never ceased and would have to be assumed again if the lease were terminated. The court held, however, that there was involved in that determination no question as to whether the operations by the lessee or its trustee might be abandoned.

"Whether the public interest requires that the line be operated by the lessee rather than the lessor presents a question for the commission," the court went on. "The lessor is not at the mercy of the lessee in this situation. For the lessor, as well as the lessee, has the standing necessary to invoke section z 1(18) on the question of abandonment."

Dealing with the section 77 phase, the court reasoned up to its main point that "if the reorganization court decrees a forfeiture in advance of consideration of the problem by the commission, it interferes with the functions entrusted to the commission under section 77." It added that the commission might by such a forfeiture "be seriously embarrassed in preparing a plan which it deems necessary or desirable for the reorganization of the debtor."

The trackage rights agreement involved in the St. Louis, Brownsville & Mexico case gave that road the right to operate its trains over Texas Mexican tracks between Robstown, Texas, and Corpus Christi, and to use Texas Mexican terminal facilities at Corpus Christi. The agreement entered November 1, 1904, was for a term of 50 years unless terminated sooner by the parties; and it contained a provision authorizing either party to cancel upon 12 months' notice, without giving any reason therefor. Brownsville went into bankruptcy along with its parent company, the Missouri Pacific, in 1933; and in October, 1940, T. M. notified Brownsville's trustee that it was exercising its right to terminate the trackage agreement effective 12 months after November 1, 1940.

An Administrative Question—Brownsville, however, continued to operate its trains over the T. M. facilities after November 1, 1941, and T. M. informed the trustee that the charge would thereafter be $500 a day, which was in excess of the rental under the agreement. The trustee refused to pay the excess and T. M. instituted suit in the Texas courts to enjoin Brownsville from using the facilities and to recover $500 a day for such use or "the reasonable value of the use of the property." The trial court denied the injunction, but held that the 1904 contract had been terminated and awarded T. M. damages in the amount of $184,929.85. The case came to the Supreme Court on petition for a writ of certiorari, which it granted, the Texas Supreme Court having meanwhile refused an application for a writ of error.

Justice Douglas' opinion, though considerably longer, follows generally the lines of that in the Hoboken case, holding that the lower court should have "stayed its hand and remitted the parties to the commission for a determination of the administrative phases of the questions involved." Here again were noted the commission's duties under the Interstate Commerce Act with respect to any abandonment by Brownsville of its operations under the trackage rights involved, and the commission's functions in framing reorganization plans under section 77 of the Bankruptcy Act.

"Section 1(18)," the court said in the former connection, "embraces operations under trackage rights as well as other types of operations. . . . Though the contract were terminated pursuant to its terms a certificate would still be required under section 1(18). Brownsville or its trustee could, of course, make the application for abandonment of operations. But the fact that they might be content with the existing arrangement and fail or refuse to move does not mean that T. M. would be burdened with a trackage agreement in perpetuity. T. M. might invoke the commission's jurisdiction under section 1(18) and make application for abandonment of operations by Brownsville or its trustee."

With respect to the bearing on the case of the commission's functions under section 77 of the Bankruptcy Act, Justice Douglas called attention to the opinion in the Hoboken case, adding that the same considerations are applicable to a trackage agreement. "Trackage agreements like leases of railroad tracks and facilities," he went on, "are means by which railroad systems have been assembled. The retention or sloughing off of trackage agreements may assume importance in the fashioning of a plan of reorganization by the commission."

Correction—1945 Taxes on Air Transport

William A. M. Burden, assistant secretary of commerce, testified at recent hearings before a House appropriations subcommittee that the air transport industry "will pay some $20,000,000 in income taxes in the calendar year 1945, and the transportation tax on air travel and air express is estimated to have yielded an additional $20,500,000." In the fifth paragraph of the item entitled "Suggests C. A. A. Fees for Aids to Aviation," which appeared on page 834 of the *Railway Age* of April 20, Mr. Burden's testimony was incorrectly reported as having given a figure of $200,000,000 for the income taxes and $250,000,000 for the yield from the transportation tax.

Testimony to End on Bulwinkle Bill

(*Continued from page 927*)

specific agreements on rates or general agreements?"

"I don't know about that," Judge Fletcher replied.

"That's the important question," the committee chairman said.

I. C. C. Must Have Power—Declaring that there have been complaints that the I. C. C. had too much power, Senator Wheeler said that the railroads should carefully consider whether or not they want the commission to control every phase of the industry.

"The I. C. C. must have enough power to regulate," Judge Fletcher replied. "God help us if we fall under the jurisdiction of the Justice Department. Certainly the I. C. C. is a more qualified agency."

"I agree with you," Senator Wheeler said, "but if violations of the anti-trust act are the issue, the Department of Justice is better equipped to handle the situation."

Answering opposition witnesses who produced letters and other correspondence emanating from files of the A. A. R., Judge Fletcher pointed out that "you can't judge any issue by deleting sentences and paragraphs from documents. You must know the background and subject matter." He particularly assailed Clark Foreman, who appeared several weeks ago in behalf of the Southern Conference of Human Welfare, which, Judge Fletcher said, was investigated by the Dies Committee for its un-American propaganda activities.

"I don't think the conference, which opposes the Bulwinkle bill, is truly representative of Southern feeling," the A. A. R. vice-president added.

Commenting during the Fletcher testimony, Senator Hawkes, New Jersey Republican, declared that "railroads have the right to go further than industry in agreeing on rates. Railroads are in a different class than other business. Railroads have to do more than other industry for the interest and safety of the American people. I always have been convinced that the I. C. C. was an efficient agency and I believe that railroads should be removed from the realm whereby they are continually harrassed in everything they do by the Department of Justice. I think the railroads proved their value to this country during the war, and as a world traveler, I know that there is no railroad transportation system comparable to that of the United States."

"I agree with you," Judge Fletcher said. "Railroads are doing their best and there is no reason why they should be at war with the Department of Justice."

"Wasted Effort"—Senator Reed, Kansas Republican, declared the Department of Justice was making "mountains out of molehills" in respect to its findings and testimony on the Bulwinkle bill. "I would like to know just how much time, money and manpower they spent," he added. "This is the worst example of wasted effort I have ever seen."

Continuing his remarks, Judge Fletcher outlined the history and development of the A. A. R. and cited the support given organizations of its kind by the late President Roosevelt and Joseph B. Eastman. He said the establishment of the Office of Federal Coordinator of Transportation during the period of the National Recovery Act and headed by Mr. Eastman, paved the way for the creation and success of the A. A. R.

The witness called to the committee's attention the fact that the Bulwinkle bill has the virtually unanimous support of the shippers of the country and the agencies of the federal and state governments which are responsible for the regulation of transportation. He agreed that the A. A. R. "does occasionally discuss rate situations," but insisted that "it is no more a rate bureau than is the Senate committee now considering this legislation."

In describing the various duties of A. A. R. officers, particularly those of A. F. Cleveland, vice-president in charge of traffic, the speaker said that Mr. Cleveland's activities, many of which had been attacked by opposition witnesses, included discussing with federal agencies the various changes on rates, advising railroads on developments of interest to them in Washington, averting rate wars and seeing that no important changes were made in rates until all concerned had had an opportunity to discuss the matter.

Refuting the charge that the A. A. R. is dominated by Eastern carriers, Judge Fletcher pointed out that of 17 members of the association's board of directors, only six are from the East, while seven are from the West and four from the South.

"One of the important objectives of the A. A. R. is to benefit the railroads as a whole," the speaker added. "In its efforts to do this, the association is conforming to the declaration of the policy found in the Transportation Act of 1940, where it is stated that the railroads and regulating authorities must adopt policies and practices all to the end of developing, coordinating and preserving a national transportation system."

In further discussion of the Justice Department's theory as to the extent to which the railroads could legally cooperate between and among themselves, Judge Fletcher pointed out that "not one of the witnesses opposing the Bulwinkle bill has undertaken to say what is the permissable area of cooperation."

"The witnesses seem to think that some consultation and cooperation are necessary," he continued, "but they do not know just how far this process should extend, insisting that it should be left to the courts to determine to what extent the railroads might consult among themselves and with shippers with respect to initiation of rates."

Local Rates Not Immune—In reply to the Justice Department's charge that there should be no agreements on competitive rates and that the only agreements which are lawful are those as to joint through rates, Judge Fletcher stated that "discriminations prohibited by law might be brought about by local rates, as well as by joint

through rates. A railroad may propose a rate on its own line which would convict that road of discrimination, since it may participate in joint through rates on the same commodity originating elsewhere than on its own line or being delivered elsewhere than on its own line."

Also appearing before the committee this week was Joseph G. Kerr, chairman of the Southern Freight Association, who strongly refuted the accusations made by James E. Kilday, Justice Department witness, as to how the association functions. Declaring that it was not a member of the A. A. R., he said his association disposes of rate applications by majority action.

"I assume then that you would not object to having the Bulwinkle bill amended to stipulate that rates may be determined by majority action?" Senator Wheeler asked.

Mr. Kerr told the committee chairman that there are some exceptions, adding that proposals often come into the association after a meeting has started and that unanimous consent is required in those cases.

"Even if the majority or all agree, do you still have the right of appeal to a higher committee?" Senator Wheeler inquired.

"Yes," said Mr. Kerr, adding that this right of appeal is seldom used.

The Montana senator then read a complaint of a shipper from his state that it took 18 months to obtain a rate adjustment, which Mr. Kerr, in defending the appeal system, said was "unusual."

"Well, you've got too many appellate boards," replied Senator Wheeler. "I agree with the Department of Justice on that."

In refuting what he termed "smears" on his organization by the Justice Department and Governor Arnall of Georgia and contentions by both that the railroads are prevented from taking independent action on rates, Mr. Kerr told the committee that the Southern filed 153 independent rate items with his association in 1943. He added that small roads, as well as the big carriers, file independent rates.

"Did you ever hear of coercion being put on a railroad for taking independent action?" Senator Reed asked.

"No, I never did," Mr. Kerr replied.

"Open" Meetings Opposed—The witness also opposed amendment to the bill to require public record of rate bureau proceedings, declaring that it would be "fatal" to have open meetings. He averred that big shippers could use the open meetings as a "big stick" by exchanging traffic for bureau members' votes.

Mr. Kerr emphatically denied that freight rates discriminated against the South and that the A. A. R. or northern roads interfered with southern rate-making. The witness also denied that the southern roads had "flouted" the orders of the I. C. C. on textile rates, as charged by Governor Arnall. Mr. Kerr said that in some cases the southern rates were lower than ordered by the commission.

Another witness, Charles H. Buford, vice-president of the Chicago, Milwaukee, St. Paul & Pacific, and a vice-president of the A. A. R. during the war, told the committee that the A. A. R. should be continued "in order to give the public the best railroad service possible."

"If the railroads are to meet the nation's future transportation demands, they must have their own national organization and be permitted to confer between and among themselves and with shippers in respect to rates and services," he said. "Those who have expressed the opinion that the A. A. R. should be abolished are not familiar with its various activities and the important part which it has played in the development of rail transportation in this country."

Senator Wheeler said that he thought the A. A. R. was "proper in many respects," but he said the question is whether or not the A. A. R. is violating the anti-trust laws. Although the committee chairman said he had not recalled any testimony urging the abolition of the A. A. R., Senator Hawkes pointed out that the Justice Department, in its presentation of organization charts, specifically named the A. A. R. as "the men on the top" and that "it should be eliminated." Mr. Buford also told the committee that the Justice Department, in its proceedings against the western railroads, asks abolition of the A. A. R.

Describing the role played by the A. A. R. during the war, Mr. Buford declared that "had it not been for our centralized organization, the movement of troops and large quantities of supplies would have been delayed indefinitely." He pointed out that the A. A. R. is the "lineal descendant" of numerous other organizations set up for the purpose of carrying out research for the improvement of railroading and is responsible for the standardization of various features of railroad service, some dating back to 1867.

"It is through the work of these organizations, now merged into the A. A. R., that the United States can enjoy such things as standard gage of track, standard time, standard parts of freight cars and other features which, by making it possible for the cars of any railroad to run over the lines of every other railroad, are responsible for the continent-wide character of American commerce," he concluded.

K. D. Loos, of Washington, D. C., representing the National Cooperative Agricultural Transportation Committee, also appeared in rebuttal. He pointed out that the A. A. R.'s Freight Claim Division review bureau had practically eliminated "any opportunity for perishable claim rackets" and that discontinuance of the bureau might easily result in passage by competing carriers of improper claims submitted by shippers.

Car Service Orders

Because of congestion on the Southern Pacific at Los Angeles, Calif., and Long Beach, the Interstate Commerce Commission has issued Service Order No. 498 directing that road to route via the Pacific Electric all carload freight originating on its lines at or east of Colton, Calif., and destined for Los Angeles or Long Beach. The order, effective May 1, will expire August 31 unless otherwise ordered.

Amendment No. 2 to Service Order No. 480 was issued April 30 to extend from May 1 to May 15 the expiration date of that order which facilitates compliance with directives of the Solid Fuels Administrator during the present miners' strike by permitting cars loaded with unbilled coal to be held free of demurrage on mine or scale tracks.

Amendment No. 2 to Service Order No. 87, which relates to free time allowed on tidewater coal at North Atlantic ports, further modifies that order in the light of existing mine-strike conditions to give shippers and receivers two months instead of one to balance demurrage accounts by offsetting excess debits against excess credits.

I. C. C. Postpones Argument on Status of Supervisors

The Interstate Commerce Commission has postponed from May 9 to a date to be fixed later the oral argument in the reopened Ex Parte No. 72 (Sub-No. 1) cases involving the status of St. Louis-San Francisco and Union Pacific roadmasters and other U. P. supervisory employees. As noted in the *Railway Age* of April 20, page 837, the commission's previous decisions would have the effect of bringing the employees involved under the provisions of the Railway Labor Act.

Cotton Belt Accepts Order to Install Signals

Replying to the Interstate Commerce Commission's show-cause order of February 28, the St. Louis Southwestern said it has no objection to installing an "adequate block signal system" on its line from Lewisville, Ark., to Texarkana Yard, Texas, but it asked the commission to withhold issuance of an order for 90 days from May 1 to allow time for studies to determine the most practicable and economical type of installation. The show-cause order was issued as a result of the commission's investigation of a January 6 collision on the line near Garland City, Ark. (see *Railway Age* of March 9, page 521).

C. P. A. Report Shows Decline in Rail Production

The effect of the recent nationwide steel strike and ensuing labor-management difficulties on the manufacture of locomotives and passenger and freight cars is sharply reflected in the April report of the Civilian Production Administration.

"Although railroad passenger car workers went on strike with the general steel walkout, most of them did not return to work until the first or second week of April because of local labor-management differences," the C. P. A. said. "Consequently, only 22 passenger cars were produced in March, all of which were for civilian use. The backlog of orders, however, decreased froam 2,645 to 2,491, indicating some cancellations. There was no further production on the 390 unfinished troop sleepers remaining in the military program."

The agency pointed out that April production should show a moderate increase "since all plants will be back in operation during the latter half of the month." It said, however, that general delays in certain materials and component parts will probably prevent the attainment of normal production before the middle of May.

According to the C. P. A., the production of freight cars for domestic use totaled 2,636 in March, compared to 2,105 in Feb-

(*Continued on page 939*)

UNION PACIFIC RAILROAD COMPANY

Forty-Ninth Annual Report — Year Ended December 31, 1945

TO THE STOCKHOLDERS OF UNION PACIFIC RAILROAD COMPANY:

The Board of Directors submits the following report for the year ended December 31, 1945, for the Union Pacific Railroad Company, including Oregon Short Line Railroad Company, Oregon-Washington Railroad & Navigation Company, Los Angeles & Salt Lake Railroad Company and The St. Joseph and Grand Island Railway Company, whose properties are leased to the Union Pacific Railroad Company. The lessor companies have certain income and charges, and the figures in the Income Account, other than those relating to transportation operations, and in the Surplus Account and General Balance Sheet and tabulations and tables relating thereto are stated on a consolidated basis, *excluding offsetting accounts between the companies.*

Income

The operated mileage at close of year and income for the year 1945, compared with 1944, were as follows:

	1945	1944	Increase	Decrease
Operated Mileage at Close of Year				
Miles of road	9,777.38	9,780.50	.....	3.12
Miles of additional main track	1,531.29	1,541.38	.....	10.09
Miles of yard tracks and sidings	4,480.41	4,394.06	86.35	
Total Mileage Operated	15,789.08	15,715.94	73.14	
Transportation Operations				
Operating revenues	$491,877,872.15	$506,590,966.01	.....	$14,713,093.86
Operating expenses	362,286,584.09	314,959,801.98	$47,326,782.11	
Revenues over expenses	$129,591,288.06	$191,631,164.03	.....	$62,039,875.97
Taxes	84,536,069.79	141,806,202.65	.....	57,270,132.86
Railway Operating Income	$45,055,218.27	$49,824,961.38	.....	$4,769,743.11
Rents from use of joint tracks, yards, and terminal facilities	1,942,090.21	1,867,788.11	$74,302.10	
	$46,997,308.48	$51,692,749.49	.....	$4,695,441.01
Hire of equipment—debit balance	$12,609,545.29	$11,599,125.91	$1,010,419.38	
Rents for use of joint tracks, yards, and terminal facilities	3,280,210.54	3,567,608.17	.....	$287,397.63
	$15,889,755.83	$15,166,734.08	$723,021.75	
Net Income from Transportation Operations	$31,107,552.65	$36,526,015.41	.....	$5,418,462.76
Income from Investments and Sources other than Transportation Operations				
Income from oil and gas operations—net	$6,172,237.69	*$7,687,916.29	.....	$1,515,678.60
Dividends on stocks owned	4,233,693.50	5,264,019.50	.....	1,030,326.00
Interest on bonds and notes owned	1,190,718.22	2,149,737.90	.....	959,019.68
Income from unfunded securities and accounts	2,190,710.75	1,805,198.14	(a) $385,512.61	
Rents from lease of road and equipment	151,883.87	172,242.87	.....	20,359.00
Miscellaneous rents	469,359.93	432,680.43	36,679.50	
Miscellaneous income	2,187,289.95	*2,889,622.75	.....	702,332.80
Total	$16,595,893.91	$20,401,417.88	.....	$3,805,523.97
Total Income	$47,703,446.56	$56,927,433.29	.....	$9,223,986.73
Fixed and Other Charges				
Interest on funded debt	$13,505,867.01	$14,110,071.76	.....	$604,204.75
Interest on unfunded debt	391,769.61	1,029,609.23	.....	637,839.62
Miscellaneous rents	51,969.38	50,872.48	$1,096.90	
Miscellaneous charges	722,260.68	665,985.04	56,275.64	
Total	$14,671,866.68	$15,856,538.51	.....	$1,184,671.83
Net Income from All Sources	$33,031,579.88	$41,070,894.78	.....	$8,039,314.90
Released from "Reserve against possible refunds on U. S. Government shipments"	1,618,699.29	859,019.55	$759,679.74	
Total for Disposition	$34,650,279.17	$41,929,914.33	.....	$7,279,635.16
DISPOSITION				
Dividends on Stock of Union Pacific Railroad Co.:				
Preferred stock:				
2 per cent paid April 2, 1945	$1,990,862.00			
2 per cent paid October 1, 1945	1,990,862.00	$3,981,724.00	$3,981,724.00	
Common stock:				
1½ per cent paid April 2, 1945	$3,334,365.00			
1½ per cent paid July 2, 1945	3,334,365.00			
1½ per cent paid October 1, 1945	3,334,365.00			
1½ per cent payable January 2, 1946	3,334,365.00	13,337,460.00	13,337,460.00	
Total Dividends		$17,319,184.00	$17,319,184.00	
Transferred to Earned Surplus—Unappropriated		$17,331,095.17	$24,610,730.33	..... $7,279,635.16

*Restated to include in oil and gas operations those other than in Wilmington field.
(a) Principally interest on short-term U. S. Government obligations.

Expenditures Chargeable to Investment in Road and Equipment Property:

Additions and Betterments (excluding equipment)	$6,742,823.67	Cost of equipment retired	2,864,326.39
Equipment	6,036,753.40	**Total Credits**	$3,802,017.22
Total Expenditures	$12,779,577.07		
Credits to investment in Road and Equipment Property:		Net increase in investment in "Road and Equipment Property"	$8,977,559.85
Cost of property retired and not replaced	$937,690.83		

Operating Results for Year 1945 Compared With Year 1944:

	1945	1944	Increase	Decrease	Per Cent
Average miles of road operated	9,779.41	9,781.57	.....	2.16	...
Operating Revenues					
Freight	$355,546,157.57	$377,242,607.50	.....	$21,696,449.93	5.8
Passenger	96,370,042.20	91,571,983.54	$4,798,058.66	.....	5.2
Mail	8,800,411.65	8,617,087.89	183,323.76	.....	2.1
Express	8,642,899.91	7,572,964.98	1,069,934.93	.....	14.1
Other passenger-train	10,455,930.00	10,088,014.08	367,915.92	.....	3.6
Switching	2,768,377.50	2,847,164.45	.....	78,786.95	2.8
Other	9,294,053.32	8,651,143.57	642,909.75	.....	7.4
Total operating revenues	$491,877,872.15	$506,590,966.01	.....	$14,713,093.86	2.9
Operating Expenses					
*Maintenance of way and structures	$69,794,445.10	$63,195,849.39	$6,598,595.71	.....	10.4
*Maintenance of equipment	117,834,077.49	85,426,029.59	32,408,047.90	.....	37.9
Total maintenance	$187,628,522.59	$148,621,878.98	$39,006,643.61	.....	26.2
Traffic	7,538,714.08	7,010,819.92	527,894.16	.....	7.5
Transportation—rail line	144,300,151.75	137,571,730.46	6,728,421.29	.....	4.9
Miscellaneous operations	14,203,419.92	13,392,357.28	811,062.64	.....	6.1
General	8,615,775.75	8,363,015.34	252,760.41	.....	3.0
Total operating expenses	$362,286,584.09	$314,959,801.98	$47,326,782.11	.....	15.0
Revenues over expenses	$129,591,288.06	$191,631,164.03	.....	$62,039,875.97	32.4
Taxes					
State and county	$11,852,758.47	$10,332,893.57	$1,519,864.90	.....	14.7
Federal income and excess-profits	$60,600,000.00	$118,000,000.00	.....	$57,400,000.00	48.6
Federal capital stock	722,557.50	2,445,951.25	.....	1,723,393.75	70.5
Federal unemployment insurance	5,344,508.50	5,186,303.14	$158,205.36	.....	3.1
Federal retirement	5,769,785.08	5,621,139.80	148,645.28	.....	2.6
Other federal	246,460.24	219,914.89	26,545.35	.....	12.1

General Balance Sheet — Assets

	December 31, 1945	December 31, 1944	Increase	Decrease
Investments:				
Road and Equipment	$1,063,759,817.56	$1,054,782,257.71	$8,977,559.85	
Less:				
Receipts from improvement and equipment fund	$23,823,091.13	$23,823,091.13		
Appropriations from income and surplus prior to July 1, 1907, credited to this account	13,310,236.52	13,310,236.52		
Total	$37,133,327.65	$37,133,327.65		
Road and equipment property	$1,026,626,489.91	$1,017,648,930.06	$8,977,559.85	
Donations and grants (Credit)	*$11,688,023.60*	*$11,631,237.76*	*$56,785.84*	
Reserve for depreciation—road and equipment (Credit)	*$166,091,411.72*	* *$156,874,429.34*	*$9,216,982.38*	
Reserve for amortization of national defense projects (Credit)	*$59,333,693.90*	* *$16,991,262.75*	*$42,342,431.15*	
Sinking funds	$50.00	$50.00		
Capital and other reserve funds	$345,689.97	$2,083,908.41	.....	$1,738,218.44
Miscellaneous physical property	$25,115,858.79	$23,677,245.67	$1,438,613.12	
Reserve for depreciation—miscellaneous physical property (Credit)	*$11,818,789.57*	* *$10,503,798.81*	*$1,314,990.76*	
Investments in affiliated companies:				
Stocks	$18,679,187.24	$18,679,185.24	$2.00	
Bonds and notes	380,720.66	4,268,113.87	.....	$3,887,393.21
Advances	9,472,413.04	10,715,399.34	.....	1,242,986.30
Total	$28,532,320.94	$33,662,698.45	.....	$5,130,377.51
Investments in other companies:				
Stocks	$64,148,974.03	$64,405,621.39	.....	$256,647.36
Bonds and notes	22,859,731.36	26,512,159.28	.....	3,652,427.92
Total	$87,008,705.39	$90,917,780.67	.....	$3,909,075.28
Reserve for adjustment of investments in securities (Credit)	*$33,905,324.96*	*$34,409,009.57*	.....	† *$503,684.61*
Total Investments	$884,791,871.25	* $937,580,875.03	.....	$52,789,003.78
Current Assets:				
Cash	$70,830,773.85	$39,902,444.67	$30,928,329.18	
Temporary cash investments (U. S. Government securities)	210,000,000.00	200,000,000.00	10,000,000.00	
Special deposits	3,552,243.11	4,665,663.92	.....	$1,113,420.81
Loans and bills receivable	2,541.60	290.88	2,250.72	
Traffic and car-services balances—net	.....	7,963,655.93	.....	7,963,655.93
Net balance receivable from agents and conductors	4,355,537.53	6,925,360.64	.....	2,569,823.11
Miscellaneous accounts receivable	24,228,879.37	29,218,263.87	.....	4,989,384.50
Material and supplies	34,733,652.93	* 36,767,476.75	.....	2,033,823.82
Interest and dividends receivable	2,543,269.22	1,973,037.27	570,231.95	
Accrued accounts receivable	16,338,189.73	* 26,079,394.00	.....	9,741,204.27
Other current assets:				
Baltimore and Ohio Railroad Co. capital stock applicable to payment of extra dividend of 1914	110,315.10	110,315.10		
Miscellaneous items	8,365,048.55	* 292,088.00	8,072,960.55	
Total Current Assets	$375,060,450.99	* $353,897,991.03	$21,162,459.96	
Deferred Assets:				
Working fund advances	$103,923.98	$105,961.02	.....	$2,037.04
Estimated post-war refund of federal excess-profits taxes	.....	18,860,931.61	.....	18,860,931.61
Other deferred assets	25,792,765.44	* 11,132,292.33	$14,660,473.11	
Total Deferred Assets	$25,896,689.42	* $30,099,184.96	.....	$4,202,495.54
Unadjusted Debits:				
Prepayments	$17,854.02	* $56,569.14	.....	$38,715.12
Other unadjusted debits	1,351,031.80	* 2,257,807.01	.....	906,775.21
Total Unadjusted Debits	$1,368,885.82	* $2,314,376.15	.....	$945.490.33
Grand Total	$1,287,117,897.48	*$1,323,892,427.17	.....	$36,774,529.69

* Restated to make figures comparable with those for 1945 because of reclassification of various accounts in conformance with orders of the Interstate Commerce Commission effective in 1945.

† Losses from sale of Baltimore & Ohio R. R. Co. common stock and redemption by call of Chicago & North Western Ry. Co. First and General Mortgage bonds, charged to this account.

Operating Results for Year 1945 Compared with Year 1944—Continued

Total federal	$72,683,311.32	$131,473,309.08	.....	$58,789,997.76	44.7
Total taxes	$84,536,069.79	$141,806,202.65	.....	$57,270,132.86	40.4
Railway operating income	$45,055,218.27	$49,824,961.38	.....	$4,769,743.11	9.6
Equipment rents (debit)	12,609,545.29	11,599,125.91	$1,010,419.38	.....	8.7
Joint facility rents (debit)	1,338,120.33	1,699,820.06	.....	361,699.73	21.3
Net railway operating income	$31,107,552.65	$36,526,015.41	.....	$5,418,462.76	14.8
Per cent—Operating expenses of operating revenues	73.65	62.17	11.48	.....	18.5
Freight Traffic (*Commercial Freight only*)					
Tons of revenue freight carried	56,505,272	57,116,601	.....	611,329	1.1
Ton-miles, revenue freight	35,546,845,368	37,125,602,435	.....	1,578,757,067	4.3
Average distance hauled per ton (*miles*)	629.09	650.00	.....	20.91	3.2
Average revenue per ton-mile (*cents*)	1.000	1.016	.....	.016	1.6
Average revenue per freight-train mile	$9.65	$10.27	.....	$.62	6.0
Passenger Traffic (*Excludes Motor-Car Trains*)					
Revenue passengers carried	7,596,011	7,156,785	439,226	.....	6.1
Revenue passengers carried one mile	5,740,885,433	5,467,595,842	273,289,591	.....	5.0
Average distance hauled per passenger (*miles*)	755.78	763.97	.....	8.19	1.1
Average passengers per passenger-train mile	282.92	290.65	.....	7.73	2.7
Average revenue per passenger-mile (*cents*)	1.674	1.670	.004	.....	.2
Average revenue per passenger-train mile, passengers only	$4.74	$4.85	.....	$.11	2.3
Average total revenue per passenger-train mile	$5.62	$5.74	.....	$.12	2.1

* Includes depreciation, amortization and retirement charges:

Maintenance of way and structures	$13,373,932.00	$5,004,780.57	$8,369,151.43
Maintenance of equipment	42,752,830.18	14,965,085.50	27,787,744.68

General Balance Sheet — Liabilities

	December 31, 1945	December 31, 1944	Increase	Decrease
Capital Stock				
Common stock	$222,302,500.00	$222,302,500.00		
Preferred stock	99,591,580.79	99,591,580.79		
Total Capital Stock	$321,894,080.79	$321,894,080.79		
Funded Debt	366,315,157.18	373,252,258.50	.....	$6,937,101.32
Total	$688,209,237.97	$695,146,339.29	.....	$6,937,101.32
Due to Affiliated Companies	$5,413,753.73	$7,497,393.92	.....	$2,083,640.19
Current Liabilities:				
Traffic and car-service balances—net	$1,438,168.06	.....	$1,438,168.06	
Audited accounts and wages payable	29,804,058.68	$23,710,528.47	6,093,530.21	
Miscellaneous accounts payable	4,089,275.10	* 3,845,989.90	243,285.20	
Interest matured unpaid:				
Coupons matured, but not presented	1,815,110.21	1,588,996.76	226,113.45	
Coupons and interest on registered bonds, due first proximo	2,857,367.50	2,946,300.00	.....	$88,932.50
Dividends matured unpaid:				
Dividends due but uncalled for	314,149.64	299,211.30	14,938.34	
Extra dividend on common stock declared January 8, 1914, payable to stockholders of record March 2, 1914, unpaid	* 119,058.41	119,058.41		
Dividend on common stock payable second proximo	3,334,365.00	3,334,365.00		
Unmatured interest accrued	1,501,713.33	1,143,140.42	358,572.91	
Accrued accounts payable	9,133,473.09	* 11,207,938.08	.....	2,074,464.99
Taxes accrued	78,122,648.44	* 139,535,275.33	.....	61,412,626.89
Other current liabilities	3,897,968.11	* 4,961,202.06	.....	1,063,233.95
Total Current Liabilities	$136,427,355.57	* $192,692,005.73	.....	$56,264,650.16
Deferred Liabilities:				
Other deferred liabilities	$8,135,336.94	* $7,838,680.55	$296,656.39	
Unadjusted Credits:				
Premium on funded debt	$3,721,400.31	$1,162,244.58	$2,559,155.73	
Reserve for fire insurance	13,925,408.33	12,904,361.41	1,021,046.92	
Reserve for depreciation—leased property	3,480.20	* 5,078.29	.....	$1,598.09
Other unadjusted credits:				
Contingent interest	17,819.99	535,866.36	.....	518,046.37
Miscellaneous items	26,189,342.00	* 11,855,164.60	14,334,177.40	
Total Unadjusted Credits	$43,857,450.83	* $26,462,715.24	$17,394,735.59	
Total Liabilities	$882,043,135.04	* $929,637,134.73	.....	$47,593,999.69
Surplus:				
Paid-in surplus	$860.00	$860.00		
Earned surplus—appropriated:				
Additions and betterments	$28,522,352.23	$28,522,352.23		
Funded debt retired through income and surplus	2,586,478.66	2,358,998.66	$227,480.00	
Sinking fund reserves	50.00	50.00		
Reserve against possible refunds on U. S. Government shipments	7,522,281.16	9,140,980.45	.....	$1,618,699.29
Total Earned Surplus—Appropriated	$38,631,162.05	$40,022,381.34	.....	$1,391,219.29
Earned Surplus—Unappropriated	$326,872,570.65	$314,661,881.36	$12,210,689.29	
Total Earned Surplus	$365,503,732.70	$354,684,262.70	$10,819,470.00	
Total Surplus	$365,504,592.70	$354,685,122.70	$10,819,470.00	
As this consolidated balance sheet excludes all intercompany items, securities of the Los Angeles & Salt Lake Railroad Company and The St. Joseph and Grand Island Railway Company owned by other System companies are not included. The difference between the par and face value of such securities as carried on the books of the issuing companies (less unextinguished discount on the bonds and discount charged to Earned Surplus—Unappropriated but added back in consolidating the accounts) and the amounts at which the securities are carried on the books of the owning companies is set up here to balance	$39,570,169.74	$39,570,169.74		
Grand Total	$1,287,117,897.48	*$1,323,892,427.17	.....	$36,774,529.69

* Restated to make figures comparable with those for 1945 because of reclassification of various accounts in conformance with orders of the Interstate Commerce Commission effective in 1945.

READING COMPANY

OFFICE OF PRESIDENT

Reading Terminal
Philadelphia 1, Pa.
May 2, 1946

To the Stockholders of Reading Company:

Condensed Annual Report of the operations of the Company for the year ended December 31, 1945:

CONDENSED EARNINGS STATEMENT

Item	1945	1944	Per Cent Increase	Per Cent Decrease
Source of Earnings				
Hauling anthracite	$19,260,697	$22,423,256		14.10
Hauling bituminous coal	20,019,879	19,987,900	.16	
Hauling merchandise	53,292,570	57,779,648		7.77
Carrying passengers	11,630,743	10,431,501	11.50	
Mail, express and other transportation services	5,147,620	5,171,659		.46
Use of our equipment by others, less rentals paid for other companies' equipment	333,738	771,470Dr.		
Dividends from stocks owned	412,580	403,468	2.26	
Interest from bonds owned	636,788	867,052		26.56
All other earnings	826,441	723,662	14.20	
Total	$111,561,056	$117,016,676		4.66
Disposition of Earnings				
Wages	$47,895,762	$47,226,390	1.42	
Fuel	6,942,178	7,462,864		6.98
Rail, ties and other material	8,895,459	8,367,966	6.30	
Payments to contractors, associations, other companies and individuals, for services and expenses	11,558,094	11,099,246	4.13	
Depreciation, amortization and retirements, exclusive of amortization adjustment	10,303,453	8,534,763	20.72	
Tax accruals other than federal income and excess profits	5,098,531	6,163,404		17.28
Rent for leased lines	2,555,179	2,692,623		5.10
Interest on funded debt	4,010,405	4,480,730		10.50
All other expenses	783,401	1,081,092		27.54
Total	$98,042,462	$97,109,078	1.96	
Net income before amortization adjustment and federal income and excess profits tax accruals	$13,518,594	$19,907,598		32.09
Additional charges for amortization adjustment	11,895,680			
Federal income and excess profits tax accruals	8,999,842Cr.	12,466,009		
Net Income	$10,622,756	$7,441,589	42.75	

SIMPLIFIED BALANCE SHEET

Owned				
Roadway property and equipment	$385,718,785	$374,001,940	3.13	
Less reserves for depreciation and amortization	113,461,066	96,840,315	17.16	
Net roadway property and equipment	$272,257,719	$277,161,625		1.77
Property not used in transportation service	12,203,185	12,835,754		4.93
Stocks, bonds and notes of other companies	49,037,581	59,580,806		17.70
U. S. Government securities	12,949,427	17,032,357		23.97
Cash	11,063,775	8,347,042	32.55	
Fuel, rail, ties and other stock material	9,488,902	8,868,336	7.00	
All other assets	21,591,903	17,477,344	23.54	
Total	$388,592,492	$401,303,264		3.17
Owed				
Mortgage and collateral bonds	$96,787,964	$106,354,064		8.99
Equipment obligations	2,096,100	236,000		
Bank loan	6,000,000			
Taxes	2,776,651	16,667,884		83.34
All other liabilities	22,843,048	20,163,685	13.29	
Total	$130,503,763	$143,421,633		9.01
Capital and Surplus				
Capital stock	$139,950,850	$139,950,850		
Surplus	118,137,879	117,930,781	.18	
Total	$388,592,492	$401,303,264		3.17

THE YEAR IN REVIEW

The Company's net income was substantially above the previous year and compares favorably with the pre-war average. This is in a large part attributable to the special circumstances resulting from the end of the war and the consequent adjustment of amortization of war facilities, which, together with the cost of refinancing, resulted in a tax credit. The Company's net income in 1945 was 43% above that of 1944, but its net income before amortization adjustment and Federal income and excess profits tax accruals was 32% less than in the preceding year.

There were several factors responsible for these results. There was a slight decrease in gross earnings. In this category, the principal declines were in revenue from anthracite and general merchandise traffic. In the former case, the cause was a three-week work stoppage, and a falling off in output per man in the mines following V-J Day, although the Company retained its share of the available business. In the latter case there was a decline in movement of materials following V-E Day, accentuated after final victory.

The most notable increase in revenue was in passenger traffic, which continued upward throughout the year, reaching its height in December when troop movements were about 2⅛ times as great as during the actual war period. During 1945 total miles traveled by all passengers including troops aggregated 597,000,000—or more than 3¼ times the pre-war average.

Operating Revenues:

The Company earned $109,351,508 from transportation services—an average of $80,049 per mile of road operated. Freight revenues averaged 1.048¢ per ton per mile.

Operating Expenses:

Offsetting the high revenues in 1945 was the increase in depreciation, amortization and retirements, exclusive of amortization adjustment, due to the new equipment which came into service during the latter part of the war, and the large share taken by payrolls. For each dollar paid to stockholders of the Company in dividends in 1945, employees received an average of $12.09 in wages, compared to $12.03 in 1944.

During the war the Company contracted to expend the sum of $22,587,097 for railroad facilities which various governmental agencies certified as necessary to the prosecution of the war. These certifications permitted the amortization of the cost of such facilities over a five-year period, or in a shorter period, at the option of the Company.

As a result of the decision to amortize the bulk of the emergency expenditures on the "short-term" basis, the operating expenses of the Company for 1945 have been charged with $11,895,680 for amortization, which is in addition to the amount of $4,153,297 (charged under the original election to spread the cost over a five-year period) and also to the normal depreciation of $5,211,311. Thus, total charges to operating expenses for the year for amortization and depreciation aggregated the extraordinary amount of $21,260,288.

Taxes:

As a result of the election to amortize the cost of railroad facilities over the shorter period and the redemption of its bonds, the Company is entitled to substantial refunds of taxes which it paid for prior years, on account of additional amortization deductions allowable for the years 1941 to 1944, inclusive, under the further election and carrying back of unused excess profits credit and net operating loss for the year 1945 to the years 1943 and 1944.

It is estimated that the total reduction in Federal and Pennsylvania taxes for the years 1941 through 1945, resulting from additional amortization deductions of $11,895,680 and refinancing expenses, including unamortized discount on old bonds redeemed, amounts to $14,774,408. It is also estimated that the total tax bill of the Company for 1945 would have amounted to $11,185,877 had it not had the income tax advantage of deductions for additional amounts of amortization and refinancing expenses. As it is, the taxes accrued by the Company in 1945 amount to a net credit of $3,588,531.

Finance:

In 1945 the Company sold, at 100.59, after competitive bidding, $84,000,000 First and Refunding Mortgage, Series D, 3⅛% Bonds, due in 1995. The $84,495,600 received from the sale of the Bonds, plus $3,467,735 cash from the Company's treasury, a total of $87,963,335, was used for redemption at 105% of the Company's General and Refunding Mortgage 4½% Bonds due January 1, 1997; redemption of Shamokin, Sunbury and Lewisburg Railroad Second Mortgage 5% Bonds due July 1, 1945, and provision for payment at maturity, April 1, 1947, of Philadelphia and Reading Railroad Improvement Mortgage 4% Bonds.

The outstanding $10,570,000 Reading Company-Jersey Central Collateral 4% Bonds, due April 1, 1951, were called for payment April 1, 1946, at 105% plus interest. The funds for this redemption were provided by cash from the Company's treasury and a bank loan of $6,000,000, which was made under a revolving credit arrangement running for six years, from October 1, 1945, with interest at 1.6% per annum on amounts actually borrowed. The Company is required to reduce its borrowings under this arrangement to the extent of at least $1,000,000 per annum.

The annual saving in interest charges resulting from the 1945 refinancing will be approximately $1,450,000, before taxes.

Under date of January 24, 1945, a Conditional Sale Agreement was entered into providing for the acquisition by the Company of five 5,400-h.p. Diesel Freight Locomotives (which are operated as 10 separate units of 2,700 h.p. each) and for the payment over a five-year period beginning April 1, 1945, of the cost thereof ($2,466,000). Under this Agreement the Company is paying, and will continue to pay, sixty monthly installments of $41,100 each together with interest on balances at the rate of 1.5% per annum.

Merger of Subsidiaries:

In line with the Company's long-term policy, there was a further simplification of its capital structure through the merger into Reading Company of eleven subsidiary railroad companies, effective December 31, 1945.

The Management desires to express its appreciation to all patrons, officers and employees, whose support and co-operation made possible the Company's achievement during the difficult war years and brought about the generally satisfactory results of the Company's operations during 1945.

By order of the Board of Directors,

Lee Brown

PRESIDENT

SOUTHERN PACIFIC COMPANY

SIXTY-SECOND ANNUAL REPORT YEAR ENDED DECEMBER 31, 1945

Message to Stockholders

Southern Pacific has come out of the war well positioned in these important respects:

1. Prospects are for traffic volume generally above pre-war levels, due to expected increase in business activity and travel throughout the country and, more specifically in our territories, to enlarged industrial development and to population growth.

2. The fundamentals of our plant are sound and afford the greatest physical capacity in the railroad's history.

3. The funded debt of the Company and its affiliated companies has been greatly reduced since 1939.

4. The performance of its organization in the war has won wide recognition, and will stand it in good stead in the transitional period we are entering.

In going ahead with our postwar improvement program, including resumption of transportation services suspended during the war and inauguration of important new services, we are confronted with a number of problems, among them shortage of materials faced by railroads and manufacturers, current high levels and future uncertainty as regards cost of materials, wages and taxes, and increased competition, with some forms of transport having advantage of public aids that railroads do not have.

Since V-J Day, in furtherance of its program to provide for current and anticipated business, Southern Pacific Company has ordered new freight cars of various kinds to cost more than $14,000,000. In addition, the Pacific Fruit Express Company, in which this Company has a one-half ownership, has ordered new refrigerator cars to cost $12,000,000. All of these are of the most modern design.

Improvements are being made currently in freight service within our own territory and, in conjunction with connecting railroads, in transcontinental service. "Overnight" merchandise trains, fanning out from the principal centers on S.P. lines to local jobbing territories, in coordination with pickup and delivery service by truck, are being restored.

As to passenger service, we have recently announced our intention to place in operation on the San Francisco-Portland run, about the end of 1946, a pair of Diesel-powered, lightweight, streamlined coach trains, to be known as the "Shasta Daylights," these to be similar to the San Francisco-Los Angeles "Daylights" that have proved exceptional in patronage by the public and revenue to the Company. The "Cascade" sleeping car trains on the Shasta Route are to be streamlined, with progressive substitution of modern lightweight cars for the so-called standard Pullmans now operated in these trains. Similarly, improvements are to be made in various services on other principal routes as new modern equipment becomes available.

Following the capitulation of Japan in August 1945, the Southern Pacific Transportation System's freight traffic declined while passenger traffic, which had decreased during the forepart of 1945, rose to and held at record levels to the end of the year. For the entire year ended December 31, 1945, net ton-miles of freight were 6.4% less and passenger-miles were nearly 2% less than the record highs in both phases of service established in 1944.

Gross operating revenues of the Transportation System were off 6% from the all-time peak of 1944. However, operating expenses, including charges for accelerated amortization of defense facilities, were 7.2% greater. Largely as a result of these factors, which were not entirely offset by a 51.5% reduction in tax accruals, and due to similar factors affecting net income of the separately operated affiliates, the consolidated net income of the properties for 1945 declined to $35,772,744, which was 14.5% less than that for 1944.

Our major wartime problem, manpower shortage, continues with respect to skilled mechanics and track labor. Shortage of the latter is aggravated by the return home of Mexican Nationals who rendered such vital service in track maintenance during the war.

Chief immediate problem since the war's end has been that of moving overland to their homes the many thousands

Income

Southern Pacific Transportation System (Southern Pacific Company and Transportation System Companies, Consolidated) and Separately Operated Solely Controlled Affiliated Companies (Excluding Southern Pacific Railroad Company of Mexico)—Year 1945 Compared with Year 1944.

SOUTHERN PACIFIC TRANSPORTATION SYSTEM:	Year 1945	+Increase −Decrease	Per Cent
Freight revenues	$406,436,523.84	−$39,966,159.14	8.95
Passenger revenues	133,789,743.58	− 629,520.06	.47
Mail and express revenues	20,684,342.62	+ 1,134,210.73	5.80
All other operating revenues	29,351,921.85	+ 1,500,483.63	5.39
Total railway operating revenues	$590,262,531.89	−$37,960,984.84	6.04
Maintenance of way and structures	$89,748,541.00	+ $4,850,850.41	5.71
Maintenance of equipment	126,414,305.50	+ 20,704,237.39	19.59
Traffic expenses	9,962,951.81	+ 692,743.48	7.47
Transportation expenses	193,602,974.09	+ 2,796,789.19	1.47
All other operating expenses	31,416,826.04	+ 1,169,289.56	3.87
Total railway operating expenses	$451,145,598.44	+$30,213,910.03	7.18
Net revenue from railway operations	$139,116,933.45	−$68,174,894.87	32.89
Railway tax accruals	63,507,538.23	− 67,473,724.99	51.51
Equipment and joint facility rents—Net	24,599,858.75	+ 738,682.33	3.10
Net railway operating income	$51,009,536.47	− $1,439,852.21	2.75
Income from lease of road and equipment, and miscellaneous rent income	$1,467,022.03	+ $88,884.53	6.45
Dividend income†	2,165,989.00	− 963,291.00	30.78
Income from funded securities	1,844,349.53	+ 1,258,522.30	214.83
Income from unfunded securities and accounts	1,526,546.33	+ 197,968.39	14.90
Other income accounts	1,785,456.80	− 1,423,284.72	44.63
Total other income	$8,769,363.69	− $841,200.50	8.75
Total income	$59,778,900.16	− $2,281,052.71	3.68
Miscellaneous deductions	671,280.08	+ 4,134.28	.62
Income available for fixed charges	$59,107,620.08	− $2,285,186.99	3.72
Interest on funded debt	$24,263,750.18	− $231,026.84	.94
Interest on unfunded debt	1,532,245.32	+ 1,496,323.60	
Other fixed charges	204,562.86	+ 74,829.44	57.68
Total fixed charges	$26,000,558.36	+ $1,340,126.20	5.43
Income after fixed charges	$33,107,061.72	− $3,625,313.19	9.87
Contingent charges	1,621.49	− 11,093.76	87.25
Net income of Southern Pacific Transportation System	$33,105,440.23	− $3,614,219.43	9.84
SEPARATELY OPERATED SOLELY CONTROLLED AFFILIATED COMPANIES:			
Operating in the United States—Net income excluding interest on bonds of such companies owned by Southern Pacific Company not included in its income	2,730,747.92	− 2,237,362.61	45.03
Operating in the Republic of Mexico (excluding Southern Pacific Railroad Company of Mexico)—Net income	60,555.77	− 98,738.87	61.99
CONSOLIDATED ADJUSTMENT—DEBIT:			
Dividends received from Separately Operated Solely Controlled Affiliated Companies included in net income of Southern Pacific Transportation System†	*124,000.00*	− 124,000.00	
CONSOLIDATED NET INCOME	$35,772,743.92	− $6,074,320.91	14.52
Consolidated net income per share of outstanding capital stock of Southern Pacific Company	$9.48	− $1.61	14.52

† *Dividends in amount $124,000.00, declared out of surplus by Separately Operated Solely Controlled Affiliated Companies as distribution of current earnings, are included in "Dividend income" for 1945 for the Transportation System and are offset in the item "Consolidated adjustment—Debit." For 1944, dividends, declared by such separately operated companies out of accumulated surpluses of previous years amounting to $2,264,576.00, were excluded from "Dividend income" of the Transportation System; therefore, no offsetting amount is reflected in the debit adjustment item.*

of veterans brought back from abroad. Reaching its peak in the closing months of 1945, this movement gradually lessened, and should be handled without difficulty from now on.

A. T. MERCIER
San Francisco, March 7, 1946. *President*

Southern Pacific Transportation System

Revenues. Railway operating revenues of $590,262,532 for 1945 were smaller by $37,960,985, or 6.04%, than those for 1944. A decrease of $39,966,159 in freight revenues, which were 8.95% less than in 1944, and a decrease of $629,520, or less than 1%, in passenger revenues, were partly offset by moderate increases in earnings from mail and express traffic and all other operating revenues.

The total freight revenues and fluctuations therein by commodity groups are shown in the following tabulation:

	1945	+Increase −Decrease	Per Cent
Products of Agriculture	$89,451,473	+ $6,568,667	7.93
Animals and Products	12,334,360	+ 724,282	6.24
Products of Mines	24,120,251	− 2,709,860	10.10
Products of Forests	36,743,702	− 5,430,771	12.88
Manufactures and Miscellaneous	228,526,218	− 39,093,435	14.61
Total Carload	$391,176,004	−$39,941,117	9.26
Less-than-carload	15,260,520	− 25,042	.16
Total	$406,436,524	−$39,966,159	8.95

The rapid decline in shipments of war materials and supplies which began when Japan capitulated on August 14, 1945 is reflected chiefly in the decreases shown for manufactures and miscellaneous freight and products of forests. Revenues from all carload traffic moved under Government bills of lading in 1945 fell approximately $35,094,000, or 22.7% below such earnings in 1944.

Revenues from carload shipments of commercial freight showed a net decrease of $4,847,000, or 1.8% under those of 1944. While there were substantial revenue gains from the movement of foodstuffs and some manufactures, these were more than offset by decreases resulting mainly from completion or cancellation of war contracts, termination of the wartime emergency movement by rail of petroleum oils and gasoline from southwestern oil fields to Atlantic Seaboard states, and depletion of mill stocks of lumber because of heavy demand for military use prior to the surrender of Japan and a drop in production under that in 1944 caused partly by labor difficulties in the lumber industry.

The level of commercial freight rates has remained generally unchanged since May 15, 1943, when the Interstate Commerce Commission initially suspended rate increases (Ex Parte 148) which it had authorized early, in 1942, for the period of the war and six months thereafter. On October 30, 1945, the Commission extended the period of suspension until a date six months after the legal termination of the war, when its original authorization of the increases will automatically expire unless sooner vacated or modified. By that action the Commission denied petitions of the Secretary of Agriculture and others asking that, for the purpose of terminating its original authorization of the rate increases, the Commission should consider the war as having ended on September 2, 1945.

Passenger revenues for 1945 nearly equalled the high record attained in 1944, as a result, principally, of the large volume of military traffic carried during the last five months of the year when war veterans were being brought home from overseas in progressively increasing numbers.

Expenses. Railway operating expenses of $451,145,598 were $30,213,910, or 7.2%, more than in 1944, chiefly due to an increase of $27,869,548 in charges for amortization of defense facilities, the Company having elected, for taxation purposes, to recompute its amortization deductions over the emergency period defined in Section 124 of the Internal Revenue Code, which ended September 29, 1945, instead of over sixty-month periods. Additional charges to operating expenses for such accelerated amortization were spread over the last four months of the year.

Aside from charges for amortization, the cost of maintaining the transportation plant was smaller by $2,314,460, or 1.3%, than in 1944. While larger forces were available and greater quantities of material were used in repairs and renewals in the forepart of the year, and prices of many items of material were higher, maintenance costs declined substantially from August through December when freight traffic volume and earnings fell off and Mexican Nationals employed on maintenance work left the service to return to their homes. There was also less work on roadway and structures performed by contractors in 1945 than in 1944.

Larger traffic forces were required throughout the year. Train and station service expenses were greater for the year, although there were large decreases in freight train costs in the last three months compared with that period of 1944. Other operating expenses were larger in total, mainly as a result of an increase in dining car and restaurant expenses incident to a substantial increase in revenues from such operations.

Approximately 562 track-miles of new rail weighing 113 lbs. and 132 lbs. per yard, and 451 track-miles of relayer rail of various weights were laid in repairs and renewals, compared with 535 track-miles of new rail and 464 track-miles of relayer rail laid in 1944.

The average number of employees was 92,458, an increase of 1,657. Payrolls comprised $254,443,189 of the total operating expenses, a decrease of $421,126. The average number of employees declined and less overtime work was required, in the aggregate, after August 1945.

Taxes. Railway tax accruals of $63,507,538 were lower by $67,473,725, or 51.5%, than in 1944. Such taxes for 1945 and 1944 took 45.7¢ and 63.2¢, respectively, of each dollar of net revenue from railway operations for those years, and were equivalent to $16.83 and $34.72 a share of the outstanding capital stock of Southern Pacific Company. The accruals by classes of taxes were as follows:

	Accruals	+Increase −Decrease
Federal unemployment insurance taxes	$7,616,436	+ $7,529
Federal retirement (pension) taxes	8,249,883	+ 9,527
Federal taxes on income and excess profits	31,815,875	− 67,310,785
Other Federal and miscellaneous taxes	644,532	− 1,476,293
State, County, and City taxes	15,180,812	+ 1,296,297
Total	$63,507,538	−$67,473,725

Profit and Loss Account of Southern Pacific Transportation System

(Southern Pacific Company and Transportation System Companies, Consolidated, Excluding Inter-Company Items)

	Year 1945
CREDITS	
Credit balance at beginning of the year	$477,102,081.43
Net income as reported in the income account	33,105,440.23
Other credits	11,938,057.07
Total	$522,145,578.73
DEBITS	
Income appropriated for sinking fund reserves	$36,000.00
Dividend appropriations of surplus	12,261,509.75
Other debits	11,586,938.03
Credit balance at end of the year	498,261,130.95
Total	$522,145,578.73

Traffic Statistics—Southern Pacific Transportation System

Year 1945 Compared with Year 1944

	Year 1945		+Increase −Decrease	Per Cent
Average miles of road operated during year	12,569.61	−	25.38	.20
Freight train-miles	38,925,572	−	2,399,084	5.81
Tons carried—Revenue freight†	88,457,562	−	6,619,507	6.96
Net ton-miles—Revenue freight	37,743,804,852	−	2,562,768,188	6.36
Loaded cars per freight train	37.99	+	.42	1.12
Net tons per freight train—All freight	1,040.10	−	4.64	.44
Freight revenue per net ton-mile—Revenue freight	1.077 cents	−	.030 cents	2.71
Average distance carried—Revenue freight (miles)†	426.69	+	2.75	.65
Passenger train-miles	26,217,497	+	1,195,839	4.78
Passengers carried—Revenue	24,077,839	−	825,800	3.32
Passenger-miles—Revenue	7,951,524,863	−	159,168,185	1.96
Passengers per passenger train—Revenue passengers	306.16	−	20.53	6.28
Passenger revenue per passenger-mile	1.683 cents	+	.026 cents	1.57
Average distance carried—Revenue passengers (miles)	330.24	+	4.56	1.40

† *Comparison based on corrected figure for 1944.*

Balance Sheet of Southern Pacific Transportation System

(Southern Pacific Company and Transportation System Companies, Consolidated, Excluding Inter-Company Items)

December 31, 1945 Compared with December 31, 1944

The assets reported below are stated on the basis of the classifications prescribed by the Interstate Commerce Commission. No attempt has been made to adjust book values of assets to current estimated values. However, applicable reserves are shown under "Investments."

ASSETS

	December 31, 1945	+Increase −Decrease	
INVESTMENTS			
Transportation property	$1,518,430,575.05	+	$5,911,429.10
Donations and grants—Credit	*20,047,393.95*	DC	1,090,969.17
Miscellaneous physical property	21,803,841.96	−	643,105.68
Reserves for accrued depreciation and amortization—Credit	*271,073,577.24*	IC	53,588,703.99
Sinking funds	210,824.61	−	1,408.51
Affiliated companies—Securities and investment advances	257,944,894.28	−	2,863,677.65
Other investments	25,545,290.12	−	225,011.41
Reserve for adjustment of investment in securities—Credit	*139,349,949.52*	IC	1,965,575.46
Total investments	$1,393,464,505.31	−$	52,285,084.43
CURRENT ASSETS			
Cash	$49,705,158.59	−	$5,561,090.99
Temporary cash investments (U. S. Treasury Notes and Certificates)	75,500,000.00	−	36,500,000.00
Accounts receivable	67,531,545.54	−	21,652,249.69
Material and supplies	32,712,522.87	−	751,105.81
Accrued accounts receivable†	14,722,757.79	−	9,223,257.95
Other current assets	19,596,528.37	+	3,255,124.81
Total current assets†	$259,768,513.16	−	$70,432,579.63
DEFERRED ASSETS AND UNADJUSTED DEBITS†	$32,709,452.95	+	$15,148,951.61
Grand total	$1,685,942,471.42	−	$107,568,712.45

LIABILITIES

CAPITAL STOCK HELD BY THE PUBLIC			
Southern Pacific Company (3,772,763.0564 shares, no par value)	$383,581,150.64		
Transportation System Companies	1,400.00		
Total stock	$383,582,550.64		
LONG TERM DEBT			
Funded debt unmatured:			
Held by the public	$470,807,583.78	−	$39,475,800.00
Held by Solely Controlled Affiliated Companies	1,020,000.00		
Total funded debt unmatured	$471,827,583.78	−	$39,475,800.00
Equipment obligations	$45,587,430.88	−	$6,344,321.44
Amounts payable to affiliated companies—Open accounts	17,037,802.66	−	171,477.58
Total long term debt	$534,452,817.32	−	$45,991,599.02
CURRENT LIABILITIES			
Accounts and wages payable	$67,667,400.79	−	$17,163,934.15
Interest matured unpaid	7,135,575.17	+	1,158,969.13
Interest payable January 1st	2,352,875.00	−	645,157.50
Unmatured interest accrued	4,719,919.50	−	360,407.36
Accrued accounts payable†	10,339,121.58	+	1,911,195.65
Taxes accrued	34,790,955.55	−	79,675,039.19
Other current liabilities	20,549,521.81	+	8,140,933.88
Total current liabilities†	$147,555,369.40	−	$86,633,439.54
DEFERRED LIABILITIES AND UNADJUSTED CREDITS†	$59,503,206.95	+	$13,871,083.40
CONSOLIDATED ADJUSTMENT			
Excess of inter-company liabilities over assets eliminated	$57,533,526.43	−$	9,550,406.24
SURPLUS			
Appropriated surplus	$5,053,869.73	−	$423,400.57
Profit and loss—Balance	498,261,130.95	+	21,159,049.52
Total surplus	$503,315,000.68	+	$20,735,648.95
Grand total	$1,685,942,471.42	−	$107,568,712.45

DC—*Decreased Credit.* IC—*Increased Credit.*

† *For comparative purposes, 1944 figures have been restated to conform to changes in Interstate Commerce Commission Classification, effective October 1, 1945.*

The decrease in tax accruals resulted principally from reduction in income (partly due to accelerated amortization of defense projects under provisions of the Internal Revenue Code) and to deduction for tax purposes, in 1945, of bond premiums paid and the unamortized discount charged off in connection with refunding and retirement of funded debt, with resultant lower Federal excess profits tax. Also contributing to the decrease in accruals were credit adjustments, in 1945, of Federal income and excess profits tax accruals for 1943 and 1944 and of income tax accruals for 1941 and 1942, due to accelerating the amortization of defense projects.

Holdings of U. S. Treasury Notes, Series C, included in temporary cash investments as of December 31, 1945, were sufficient to cover the estimated outstanding liability for Federal taxes on income.

Rents. Equipment and joint facility rents paid exceeded such rents received by $24,599,859, which was $738,682, or 3.1%, more than the net cost in 1944. Net payments for use of rolling stock of other companies increased $940,591, while payments for facilities jointly used decreased $201,909. The higher cost for use of equipment was the result of the heavy westward movement of war freight in cars of other companies, an increase in February 1945 from $1 to $1.15 a day in the rental each railroad charges for use of freight cars, and utilization of many more passenger cars of other companies than in 1944 due to the homeward movement of war veterans in the latter part of the year.

Other Income. Income from sources other than railway operations amounted to $8,769,364. This was $841,200, or 8.8%, less than such income for 1944, due to a decrease in dividends received from Pacific Fruit Express Company and a decrease in credits included in Other Income Accounts resulting from smaller charges against Pacific Fruit Express Company in 1945 for services rendered and privileges granted to that company. These decreases were partly offset by a net increase in all other nonoperating income.

Fixed Charges. Interest on debt and other fixed charges aggregating $26,000,558 were $1,340,126, or 5.4%, more than in 1944. This was principally due to a charge of $1,410,000 to Interest on Unfunded Debt resulting from payment of interest on $14,000,000 of expected assessments of additional Federal income and excess profits taxes for the years 1943 and 1944, that proportion of expected assessments of additional taxes having been paid in 1945, stopping accumulation of interest on that amount.

Separately Operated Solely Controlled Affiliated Companies

Net income of separately operated Solely Controlled Affiliated Companies operating in the United States, shown in the Income Account, excludes interest, totaling $2,128,365 and $2,159,065 for 1945 and 1944, respectively, accrued by Pacific Electric Railway Company and Northwestern Pacific Railroad Company on bonds of those companies owned by Southern Pacific Company but not included in its income for those years.

Southern Pacific Railroad Company of Mexico had a net deficit of $3,535,420 for 1945 which was larger by $2,986,981 than the net loss of $548,439 for 1944. The increased deficit was due principally to greater maintenance expenditures under an extensive rehabilitation program, and higher wage rates. The results were also affected by charges in 1945 of $651,166 for depreciation of roadway property, compared with $372,530 in 1944, and $1,226,021 for loss on retirement of property, principally abandonment of 18 miles of branch line and a number of water wells. Income charges for amortization of investment in property subject eventually to reversion to the Mexican Government were $584,606 in 1945, compared with $583,046 in 1944.

Improvements to Transportation Property

The increase during the year in investment in transportation property of Southern Pacific Transportation System amounted to $5,911,429, as follows:

Road extensions		$ 764
Additions and betterments:		
Road property	$9,171,882	
Rolling stock	5,834,356	
Floating equipment	304	
Miscellaneous equipment	79,276	15,085,818
Total expenditures		$15,086,582
Less:		
Road property retired	$4,784,782	
Rolling stock retired	2,689,425	
Miscellaneous equipment retired	12,188	
Miscellaneous adjustments	1,688,758	9,175,153
Net increase		$5,911,429

Road Property. Approximately 542 track-miles of new rail and 354 track-miles of relayer rail, laid in renewals mentioned elsewhere in this report, replaced rail of lighter weight, with consequent charges to investment in road property. Six new sidings and twenty-five extensions to sidings were constructed, aggregating 9 miles of track; and at thirty-two terminals additional yard trackage was constructed, aggregating 22 miles of track, nearly half of which was to facilitate service to industries.

At Harvey, Louisiana, 20,890 feet of industrial trackage were constructed to serve various industries and to enable industrial development of 3.7 miles of canal frontage. At Orange, Texas, 3,224 feet of tracks were constructed and a half interest was acquired in 16,640 feet of trackage to serve a nylon plant. At Raymer, California, 25 acres of land were purchased and construction of trackage was started to serve a new automobile assembly plant now under construction. Five produce packing sheds were constructed in the Rio Grande Valley in Texas. Additional land was purchased and track construction commenced at Saco, Slater and Spreckels Junction, California, to serve produce shippers.

Centralized Traffic Control was placed in service on 52.8 miles of main line between Lemay and Bridge, Utah, including the length of Great Salt Lake Trestle. Work was started in August 1945 on extension of this project westward to Lucin, Utah, a distance of 22 miles, which, together with 8.5 miles of similar installation in Texas, will be completed in 1946. Centralized Traffic Control was in service on a total of 375.2 miles of System main lines at the close of the year.

Substantial progress was made on a program of improvement to Great Salt Lake Trestle, including addition of piling and bracing to strengthen the structure. Near Ripon, California, Stanislaus River Bridge, 198 feet long, was replaced by a stronger structure on new concrete piers.

Further progress was made in improving main track alinement in the district between Sanderson and Del Rio, Texas, by line changes near Mofeta and Cabra which eliminated excessive curvature and 2 steel bridges and effected a small reduction in the mileage of the line. Near Moscow, Texas, a line change 2,700 feet long was completed, reducing grade. At Honda, California, where the Coast Line is built on a high bluff along the Pacific Ocean, the main line for a distance of 4,676 feet was shifted 108 feet to place the track on a better roadbed. At Capitola, California, where the Santa Cruz Branch is constructed on a bluff along Monterey Bay, the track for a distance of 1,938 feet was shifted 120 feet to a better roadbed. Sharp curvature was eliminated at two places between Mojave and Saugus, California, by short line changes near Ravenna and Lang.

The supply of water for locomotives was increased at a number of locations by enlarging storage capacity, drilling new wells, or installing larger pipe lines, largest of these projects being replacement of 10 miles of wood-stave pipe with steel pipe.

Rolling Stock. On December 31, 1945, 57 lightweight sleeping cars were purchased and 34.49% interest in 6 such cars was acquired from The Pullman Company. Other units acquired consisted of 10 second-hand 2-8-4 type locomotives and tenders and 2 cabooses. A rail-flaw detector car was built in Company shops and 2 relief cranes, 250-ton capacity, were purchased. Many units of owned equipment were improved in Company shops.

On order at the end of 1945, and expected to be delivered in 1946, were 500 lightweight box cars ordered in December 1944, and 3,550 units ordered in September and October 1945, consisting of 1,600 lightweight box cars, 750 automobile cars, 1,150 gondola cars including 150 covered gondolas with hopper bottoms, and 50 cabooses.

Retirements. Retirements of road property not replaced included 10.36 road-miles of branch line in Louisiana which had become unprofitable, and 22.2 track-miles of sidings, spurs and yard tracks at various locations which were no longer required for operating purposes.

Units of rolling stock retired in 1945 consisted of 4 steam locomotives, 12 passenger-train cars including 9 obsolete gas-electric motor cars, 1,098 freight-train cars, and 101 company service cars; all of which, except 2 cabooses sold to a subsidiary company, were worn out or, in some instances, damaged beyond repair.

Financial

Funded Debt and Equipment Obligations. During 1945 the principal amount of unmatured funded debt and equipment obligations *held by the public* decreased in the net amount of $49,561,121, divided as follows:

Southern Pacific Transportation System	$45,820,121
Separately Operated Solely Controlled Affiliated Companies	3,741,000
Total decrease	$49,561,121

This sum includes $11,045,500 of funded debt called for redemption but not presented for payment by December 31, 1945. The following items comprise the net decrease:

Southern Pacific Transportation System

Southern Pacific Company:		
Equipment obligations		$6,344,321
Other funded debt		300
Central Pacific Railway Company:		
Thirty-five Year European Loan 4% Bonds of 1911, due March 1, 1946		2,875,000
First Refunding Mortgage 4% Gold Bonds, due August 1, 1949:		
Purchased	$18,005,000	
Exchanged for First and Refunding Bonds, Series A	5,025,000	23,030,000
Southern Pacific Railroad Company:		
First Refunding Mortgage 4% Gold Bonds, due January 1, 1955, entire issue called for redemption January 1, 1946, at 105		143,473,500
Other Transportation System Companies:		
Dawson Railway & Coal Company:		
First Mortgage and Collateral Trust Bonds, due July 1, 1951		122,000
Serial Notes		20,000
Gross decrease		$175,865,121
Deduct:		
Central Pacific Railway Company:		
First and Refunding Bonds, Series A, due August 1, 1974 (interest at 4¼% to August 1, 1949, and 3½% thereafter) issued		$5,025,000
Southern Pacific Railroad Company:		
First Mortgage Bonds issued:		
Series A, 2⅞%, due January 1, 1961	$25,000,000	
Series B, 3¼%, due January 1, 1986	50,000,000	
Series C, 3¼%, due January 1, 1996	50,000,000	125,000,000
Other Transportation System Companies:		
Serial Notes issued		20,000
Total deductions		$130,045,000
Net decrease in unmatured funded debt and equipment obligations of Southern Pacific Transportation System held by the public		$45,820,121

Separately Operated Solely Controlled Affiliated Companies

Pacific Electric Railway Company:	
Los Angeles Pacific Company First Refunding Mortgage 4% Gold Bonds, due January 1, 1950, entire issue called for redemption July 1, 1945, at 105	$3,738,000
Other funded debt	3,000
Total decrease in unmatured funded debt of separately operated Solely Controlled Affiliated Companies held by the public	$3,741,000
Total decrease	$49,561,121

In 1945, arrangements were completed for financing with interest at 1.70% per annum, by means of agreements of conditional sale, the purchase of 4,050 units of freight-train equipment, estimated to cost approximately $16,000,000. Under these agreements, $12,500,000 or 79% of the aggregate purchase price of the equipment, whichever is less, will be paid by Southern Pacific Company in equal semi-annual installments over the period from July 1, 1946 through January 1, 1958.

In 1945, Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies operating in the United States made expenditures or set aside funds in the aggregate amount of $183,435,223 for the retirement and refunding of funded debt, excluding expenditures for the retirement of debt matured or called for redemption prior to 1945. Of this sum $122,520,000 was provided from the sale of new issues. The aggregate amount mentioned includes funds set aside for the redemption of bonds of the issues called for redemption in 1945 but not presented for payment by December 31, 1945.

Capital Stock. There was no change during the year in the number of shares of capital stock of Southern Pacific Company issued and outstanding. The number of stockholders at the end of the year was 43,482 compared with 42,993 at the end of 1944. Of the stockholders of record entitled to vote at the 1945 annual meeting, approximately 92% held 100 shares or less and approximately 39% held 10 shares or less. Dividends aggregating $3.25 per share were declared during the year on capital stock of Southern Pacific Company.

Cash Expenditures for Additions and Betterments. In 1945, the Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies operating in the United States expended $15,602,207 (exclusive of non-cash items) for additions and betterments, including equipment. No equipment obligations were issued during the year.

(*Continued from page 930*)

ruary and 3,040 in January. Production for export also dropped from 747 in February to 135 in March.

"The relatively high production for domestic use in relation to production for export," C. P. A. said, "is due in part to the domestic railroads' pressure for new equipment—particularly refrigerator and box cars—and in part to the fact that manufacturers were winding up production on export orders from several countries and had not started on the French order for 36,750 small 20-ton cars. The backlog of unfilled orders is approximately 87,400, divided about 50-50 between domestic and foreign purchasers."

The agency added that local labor-management disputes continued to hold up production of locomotives during March and that normal production was not expected to be resumed until the latter part of April.

Chamber of Commerce Reports on "Inland Waterway Costs"

Expenditures totaling $3,647,494,000, of which $1,080,020,000 was spent to improve navigation facilities on the Mississippi river, $904,737,000 for flood control and $221,710,000 for navigation on other inland waterways, are developed in a report, "Inland Waterway Costs," which has been issued by the Transportation and Communication Department of the United States Chamber of Commerce. Using the latest report of the chief of engineers, United States Army, as its source, the C. of C. committee survey shows the federal expenditures on inland waterways and harbor improvements through 1941, the latest year for which figures are available. It also indicates the results in availability for navigation, the amount of traffic carried and the average unit costs to the government of that traffic. Of the total navigation expenditures, nearly three-fourths have been for construction and one-fourth for maintenance.

Prior to the enactment of the Flood Control Act of 1936, the report states, federal inland waterway expenditures, except on the Mississippi and Sacramento rivers, were not accredited in any part to flood control. Expenditures made for flood control were restricted to those deemed justified for the stabilization of navigation channels. Since 1936, however, the authorizations for flood control have been separate from those for navigation.

From an analysis of 77 completed but unidentified waterway projects, considering maximum annual traffic to date, the report develops two tables of ton-mile costs. One table is based only on maintenance and operating costs, while the other accounts for such costs and interest on construction expenditures as well.

Each table divides the waterways into four groups according to ton-mile-cost ranges from below 2 mills to above 2 cents. A substantial number of waterways come in the highest group, the report points out; and it also states that the ton-mile costs to the government for that category probably exceed the total costs of moving the commodities by rail or truck.

In the table based on maintenance and operating costs and interest on construction expenditures, 30 projects with a navigable length of 3,421 miles are shown to have an average ton-mile cost of 33 mills, while the cost for 15 projects with a navigable length of 1,156 miles is 0.55 mills. Eighteen projects, with a navigable length of 2,684 miles, have an average ton-mile cost of 2.7 mills and 14 projects with a navigable length of 1,595 miles, have an average ton-mile cost of 9.6 mills.

In the table based on maintenance and operating costs only, 19 projects with a navigable length of 1,952 miles have an average ton-mile cost of 39 mills; 15 projects with a navigable length of 1,854 miles have an average ton-mile cost of 8.6 mills; 14 projects with a navigable length of 1,485 miles have an average ton-mile cost of 3.2 mills and 29 projects with a navigable length of 3,477 miles have an average ton-mile cost of 0.37 mills.

"Since the improvement of the Mississippi, the lower Missouri and the Ohio is not yet completed, these are treated separately," the report adds. "These figures indicate that the lower Mississippi and the Ohio, when completed, will fall in the lowest ton-mile group, the upper Mississippi in the second or third group and the Missouri in the fourth."

The Baltimore and Ohio Railroad Company

Summary of 1945 Annual Report

TO ALL SECURITY HOLDERS:

Operating revenues of $361,373,218 for 1945, were $25,819,818 less than in 1944. Operating expenses of $296,661,547 were the largest in the Company's history, principally because of increased material costs and the charge of $18,571,715 on account of amortization of defense projects. This resulted in a tax credit of $14,990,255. Total taxes paid were $20,074,255. Statement of earnings, expenses and disposition of net earnings for 1945 follows:

EARNINGS:

	Year 1945	Compared with 1944
From transportation services performed	$361,373,218	D $25,819,818
From dividends, interest, rents, etc.	6,790,888	D 950,407
Total	$368,164,106	D $26,770,225

EXPENSES:

Payrolls, fuel, material, etc.	$296,661,547	I $ 9,592,793
Taxes	20,074,255	D 28,910,590
Equipment and Joint Facility Rents	7,984,975	D 1,838,082
	$324,720,777	D $21,155,879
All other—interest on debt, rents, etc.	27,541,928	D 601,309
Total	$352,262,705	D $21,757,188
Net Earnings	$ 15,901,401	D $ 5,013,037

DISPOSITION OF NET EARNINGS:

Additions and betterments	$ 3,553,498	D $ 1,352,612
Sinking funds—to retire debt	7,241,082	D 815,853
Other appropriations	8,411	D 1,723
Added to the Company's surplus	5,098,410	D 2,842,849
Total	$ 15,901,401	D $ 5,013,037

The year 1945 was important to all security holders of the Company. The Interstate Commerce Commission, the Company's bondholders, and a Special Federal Court—each placed their stamp of approval on the Company's Adjustment Plan. On March 13, 1946, the Court entered its formal Decree, directing that the Plan be put into effect.

Nearly $27,500,000 was invested in 1945 in the construction of new and improved track, bridges, signals, yards and other facilities, and in the acquisition of new and improved locomotives and freight and passenger cars. This resulted in additional sources of traffic, more efficient and economical operations, and improved service for B&O patrons.

A program of traffic development started several years ago is being intensified, and research projects promising heavier tonnage and more efficient locomotive performance are making encouraging progress.

Equipment obligations issued during 1945 to finance the purchase of new equipment amounted to $15,799,600; equipment obligations retired were $5,183,560. Total equipment obligations outstanding, December 31, 1945, were $39,105,577. This was $10,616,040 more than at the end of 1944. Other debt was reduced a total of $10,601,431 in 1945. THE NET DEBT REDUCTION, 1942-1945 INCLUSIVE, WAS $105,021,264.

Of the 17,857 employees of the B&O who entered the armed forces, more than 200 lost their lives. Of the rest, nearly 7,000 have resumed their employment with the Company, and nearly 1,300 additional servicemen have also been employed.

The President and Directors acknowledge with appreciation the continued cooperation of stockholders, Government agencies, shippers, and the officers and employees of the Company.

R. B. WHITE, *President*

Signaling Orders Served on A. C. L. and S. A. L.

Acting after consideration of returns to show-cause orders served on the Atlantic Coast Line and Seaboard Air Line, the Interstate Commerce Commission this week issued orders requiring those roads to carry out extensive signaling projects during the next four years. The orders, dated April 29, are in Docket No. 28750, the A. C. L. order being Sub. No. 16 and the S. A. L. order Sub. No. 23.

The show-cause order was served on the A. C. L. February 19, 1945, and the commission's present action came after it had received the road's supplemental reply, which was noted in the *Railway Age* of April 6, page 744. As pointed out there, the A. C. L. advised the commission that it has plans for a $10,000,000 project to modernize the signaling on its entire line from Richmond, Va., to Orlando, Fla., and to extend that modern signaling from Orlando to Tampa, and to install a block signal system between Jesup, Ga., and Montgomery, Ala.

The present order requires that plans for the Orlando-Tampa and Jesup-Montgomery projects be carried out, the former to be completed by July 1, 1948, and the latter by January 1, 1950. It further requires that, on all other portions of A. C. L. lines on which a speed of 60 m.p.h. or more is authorized, there must be installed a block signal system by July 1, 1951, or an "adequate manual block signal system" by July 1, 1950.

The S. A. L. return (see *Railway Age* of March 23, page 655) was to the show-cause order served January 30, following the commission's investigation of a collision at Kollocks, S. C., on December 16, 1945. The return suggested that if an installation were to be prescribed, it should first be required on the lines from Hamlet, N. C., to Savannah, Ga., via Columbia, S. C.; from Coleman, Fla., to Miami; and from Coleman to Valrico, a total mileage of 580.5. The commission's present order requires those installations, stipulating that the first be completed by October 1, 1947, the second by October 1, 1948, and the third by April 1, 1949. It then goes on to impose the same general requirement as it did in the A. C. L. case, though the deadline dates are different. On all other S. A. L. lines on which a speed of 60 m.p.h. or more is authorized a block signal system must be installed by April 1, 1950, or an "adequate manual block signal system" by August 1, 1949.

R. E. A. Emergency Board

The White House this week announced President Truman's appointments to the emergency board created on April 24 to investigate the wage dispute which brought a strike threat to the Railway Express Agency. The appointees are: Professor I. L. Sharfman of the University of Michigan; Leverett Edwards, attorney of Oklahoma City, Okla.; and Robert W. Woolley, Washington, D. C., attorney and former member of the Interstate Commerce Commission.

As noted in the *Railway Age* of April 27, page 890, the board was originally created to investigate the dispute between R. E. A. and its employees represented by the Brotherhood of Railway Clerks. Later, however, its jurisdiction was broadened by a Presidential order of April 25 to include also disputes involving other R. E. A. employees represented by the International Association of Machinists and the International Brotherhood of Blacksmiths, Drop Forgers and Helpers.

Drops Cab-Seating Complaint Against G. C. & S. F.

Acting upon request of the Brotherhood of Railroad Trainmen, the Interstate Commerce Commission has dismissed the Gulf, Colorado & Santa Fe as a defendant in the case involving that union's complaint which alleged that this road, the Atchison, Topeka & Santa Fe and Western Pacific were operating steam locomotives in violation of the Locomotive Inspection Act in that they were not equipped with "adequate seating facilities" for brakemen and trainmen. The dismissal order stated that the G. C. & S. F. and the B. of R. T. had reached an agreement on the matter.

As noted in the *Railway Age* of April 20, page 838, the complaint was recently dismissed for a like reason in so far as it pertained to the Santa Fe's Coast Lines.

Railroads Fined

The Interstate Commerce Commission has been advised that fines of $2,100 and $500 were recently imposed in turn on the Great Northern and Atchison, Topeka & Santa Fe following their respective pleas of guilty and *nolo contendere* to indictments charging violations of the commission's regulations governing the transportation of explosives.

I. C. C. Secretary Bartel's notice regarding the Great Northern said that the fine was imposed by the United States District Court at Seattle, Wash., on a 21-count indictment. The notice went on to explain that specific offenses charged were the failure on the part of the carrier to place "explosive" stamps on waybills covering 20 carload shipments of freight placarded "explosives," and cutting off a car loaded with and placarded "explosives" while in motion in switch movement and permitting car to run into track under its own momentum.

The Bartel notice with respect to the Santa Fe said the road paid its fine in the U. S. District Court at Los Angeles, Calif., the indictment having contained four counts. Specific offenses charged, according to Mr. Bartel, were the improper placing of carloads of freight placarded "dangerous" in a through freight train in the first and second positions, respectively, from the locomotive and the cutting off of a carload of freight loaded with and placarded "explosives" in switch service while the car was in motion. The indictment also charged the improper placing of a carload of freight loaded with and placarded "explosives" next to a loaded freight car placarded "dangerous."

Women Railway Employees

Class I railroads had 98,184 women employes as of the middle of January, 1946, a decrease of 11,240 from the mid-October, 1945, figure of 109,424, and the proportion of women employees to total employees fell slightly from 7.83 per cent to 7.05 per cent, according to the latest report on the subject by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The total of 98,184 women employees as of the middle of January compares with a January, 1945, figure of 114,199. The total of all employees at the same times was, respectively, 1,393,477 and 1,393,517.

As compared with mid-October, there were declines in the mid-January figures for women employees in every employment group. The largest number continues to be included in the professional, clerical and general category, for which the mid-January total was 71,171, as compared with mid-October's 77,546. There were 14,674 women employed in maintenance of equipment and stores as compared to 17,137 in mid-October; 11,441 as compared to 13,055 in transportation work, other than train, engine and yard service, and 773 as compared to 1,417 in maintenance of way and structures.

Other women employees as of mid-January included 19 in the executive, officials and staff assistants group; 32 switchtenders and 114 in train and engine service.

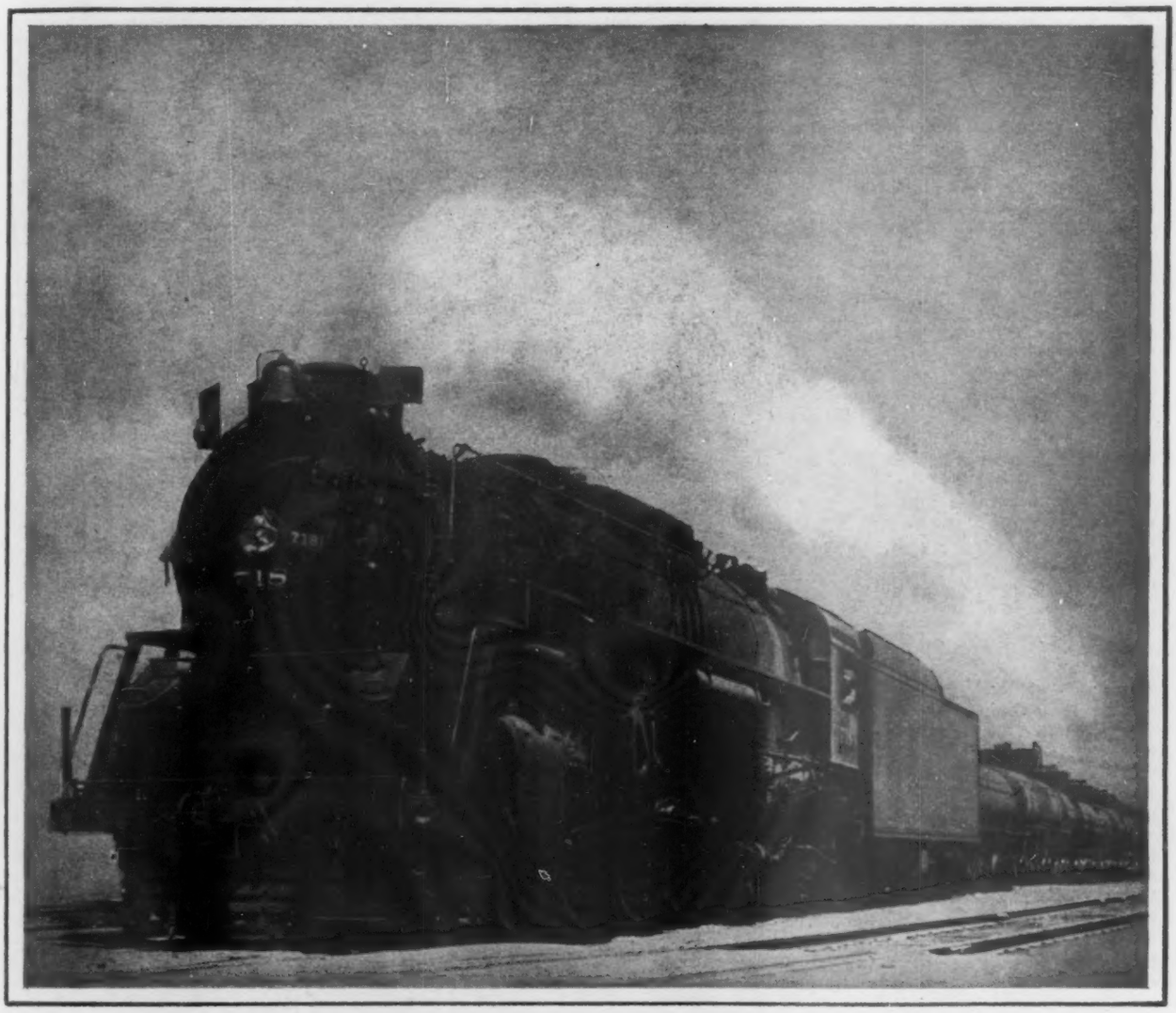
Dismisses Complaint Against Hell Gate Route Charge

Dismissing the complaint of a Boston, Mass.-Newark, N. J., passenger who assailed the 90-cent charge which he paid for service through New York City over the Hell Gate route, the Interstate Commerce Commission has found that this charge is not unduly prejudicial, unjustly discriminatory, or violative of the aggregate-of-intermediates provision of section 4, and "not shown to have been or to be unreasonable." As noted in the *Railway Age* of November 10, 1945, page 762, Examiner John Davey's proposed report recommended a finding that the collection of the charge was "unjust discrimination and an unreasonable practice."

The shortened procedure was followed in the case, docketed as No. 29284, and the commission's report is by Commissioner Miller to whom the matter was referred for disposition. The complainant Wilbur E. Dow, Jr., was charged the 90 cents (plus federal tax) on account of the Hell Gate "toll" when he remained in the parlor-car seat in which he had traveled from Boston to Pennsylvania station, New York, on a ticket covering that journey, and purchased from the conductor Pullman and railroad tickets from Pennsylvania station, New York, to Newark, N. J., to which station the train was scheduled to continue en route to Washington, D. C.

The complaint was bottomed on the fact that the "toll" is collected only from through passengers and not from travelers from New England who end their journeys in New York, the local fares from or to any point on the New York, New Haven & Hartford to New York being the same, whether to or from Pennsylvania station or Grand Central terminal. This equality, Commissioner Miller pointed out, is maintained "to obtain a desirable distribution of traffic. Circumstances and conditions affecting the transportation of passengers destined to New York City require the maintenance of fares over the Hell Gate Bridge route to Pennsylvania station that

News Department continued on next left-hand page



to replace inadequate motive power

In wartime emergencies the railroads mobilized every locomotive that could be kept in service. But now inadequate motive power cannot cope with steadily increasing demands for service.

Efficiency and economy of operation call for the most modern types of locomotives, like this Nickel Plate Lima-built 2-8-4, capable of handling heavy freights on long runs at sustained high speeds.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

do not exceed fares from the same origins to Grand Central station."

The report recognizes that through passengers and travelers to New York may travel in the same car, but it goes on to say that "their transportation is not 'a like and contemporaneous service in the transportation of a like kind of traffic under substantially similar circumstances and conditions.'" This "difference in circumstances and conditions was recognized by Division 2 of the commission by the issuance of fourth section order No. 7976 of June 10, 1941, granting authority to maintain the through fares that exceeded by the amount of 90 cents the aggregate of intermediate fares to and from New York City."

Commission Miller recalled that before the New York Connecting opened the Hell Gate route on April 1, 1917, there had been from 1876 to 1912 a service whereby through passenger cars operated between Boston and Washington were transferred by car float from the rail head of the New Haven at Harlem river to the New Jersey rail terminal of the Pennsylvania. On this route, known as the Steamer Maryland route, through one-way fares were made 75 cents higher than the through fares via Grand Central station, Mr. Miller said.

He went on to point out that for the year ended December 31, 1942, the average investment per mile of road of the New York Connecting, 9 miles in length, "was $3,051,785 or approximately 11 times the average for the Pennsylvania, over 13 times the average for the New Haven, and over 15 times the average for Class I railroads in the Eastern district." These comparisons, Mr. Miller continued, indicate the "unusual character" of the connecting facility.

"However," he added, "they do not establish the reasonableness of the added charge for the service over this facility. While it appears from the limited facts of record that some charge for this service is warranted, the evidence affords no sufficient basis for a conclusion as to whether the charge of 90 cents exceeds a reasonable maximum for services rendered."

Nevertheless, the commissioner went on to his adverse findings with respect to the complaint, including that holding that the charge " is not shown to have been or to be unreasonable."

Stabilization Authorities Clear Wage Increase

Chairman H. H. Schwartz of the National Railway Labor Panel has issued "General Wage Approval No. 1," authorizing railroads to increase the wages of their employees 16 cents per hour, or $1.28 per basic "day," or the equivalent thereof, "in addition to straight time hourly rates in effect for such employees on April 2, 1946, less the amount of any general, across-the-board increases which a given carrier may have granted between August 18, 1945, and April 2, 1946, inclusive." The effect of the approval, which carried the required endorsement from Economic Stabilization Director Chester Bowles, is to permit the railroads to apply the recent arbitration awards and the wage recommendations of the emergency board which heard the case involving demands of the Brotherhood of Railroad Trainmen and Brotherhood of Locomotive Engineers.

The approval notes that it is "permissive in nature and shall not be construed as directing or ordering payment of such increases as are herein approved." It is also stipulated that "in the case of employees with duly recognized bargaining representatives, the approval conveyed herein is applicable only in the event that the terms of the increase meet with the concurrence of such recognized bargaining representatives of the employees." Moreover, the approval "is not applicable to any carrier subject to the Railway Labor Act whose wage-setting practices follow the movements of any industry other than the railroad industry."

The economic stabilization director's endorsement, so it says, "shall not be construed as implying any opinion on the question whether wage or salary increases in excess of those herein found to be approvable would be consistent with the policy of the stabilization laws and of the executive orders and regulations issued thereunder."

Materials-Prices

The following is a digest of orders, notices and information that have been issued by the Office of Price Administration and the Civilian Production Authority, since April 22 and which are of interest to railways:

Shingles—C. P. A. makes available priorities assistance to maintain or increase production of asbestos-cement siding shingles and flat sheets and also for the specialized machinery used to make these products, in amending schedule No. 1 of PR No. 28.

Construction Machinery—CC ratings issued for construction machinery cannot be extended beyond the dealers and sales organizations representing producers, C. P. A. has ruled, but producers selling direct to consumers must continue to accept such ratings.

Prices

Clay Pipe — Ceiling prices for vitrified clay sewer pipe and allied products sold in eastern and east central states are advanced 15 per cent by O. P. A. in amendment No. 19 to RR No. 206, amendment No. 38 to order No. 1 under Section 25 of R No. 592, both effective immediately.

Electrical Conduit—Manufacturers of rigid conduit, electric metallic steel tubing and flexible conduit are given a price increase factor of 13 per cent over present ceiling prices exclusive of any increases established by individual producers, in O. P. A. order No. 606 under RR No. 136, effective at once.

Lead—Sellers of lead are provided with maximum charges for special packing and loading services requested by buyers, in O. P. A. amendment No. 1 to R No. 70, effective April 29.

Softwood Yards—O. P. A. eliminated the requirement that new softwood lumber distribution yards apply for permission to sell at distribution yard maximum prices. Now all required of a new yard is a statement to the nearest O. P. A. district office. Amendment No. 20 to second RR No. 215 now is effective.

Steel Shovels—Manufacturers of steel shovels, scoops and spades are granted an interim wage-price increase amounting to 9 per cent of existing ceiling prices, in O. P. A. order No. 4973 under R No. 188, effective at once.

Iron Castings—Ceiling prices for malleable iron castings are increased an average of 7 per cent in O. P. A. amendment No. 11 to R No. 241, effective at once.

Tools, Dies—Manufacturers of tools, dies, jigs, fixtures, molds and patterns used in making general machines, parts and industrial equipment covered by the general machinery regulation are assured of maximum prices at least equal to current total costs in sales to purchasers of the finished machines, O. P. A. ruled in amendment No. 36 to RR No. 136, effective at once.

Cutting Tools—Manufacturers of cutting tools, attachments and accessories for machinery and machine tools are given a price increase of 17.3 per cent over March 31, 1942, prices, in O. P. A. order No. 614 under RR No. 136 effective at once.

Pole Line Hardware — Ceilings on pole line hardware and line construction specialties have been increased 15 per cent by O. P. A. in order No. 604 under RR No. 136 effective immediately.

Cotton Yarn—A 5 per cent incentive premium is granted producers of combed and carded yarns, tire cords and cotton rope, twine, yarn and cord, in O. P. A. amendment No. 21 to supplementary order No. 131, effective at once.

Sheathed Cable — Dollar-and-cent ceilings are fixed by O. P. A. for sales of nonmetallic sheathed cables, types R and T, by all manufacturers and other sellers in amendment No. 4 to R No. 82, effective April 30.

Lead Pigments—A more favorable base period is established by C. P. A. for quotas of lead chrome pigments, used in printing inks, paints and ceramics, in a new amendment to order No. L-354. The new base period is the first three months of 1946.

Lead—Sellers of lead are provided with maximum charges that they may get for special packing and loading services requested by buyers in O. P. A. amendment No. 1 to R No. 70, effective April 29.

Equipment and Supplies

LOCOMOTIVES

N. Y. Central Orders 109,000 Diesel Locomotive Horsepower

The New York Central has placed orders for Diesel-electric locomotives with a total of 109,000 horsepower for use in freight and passenger service. Included are orders for 20 locomotives of 2,000-hp. each for passenger service, 28 units of 1,500-hp. each for freight service and six units of 1,500-hp. each for combination passenger and freight service, all placed with the Electro-Motive division of the General Motors Corporation; six units of 1,500-hp. each for passenger and freight service, placed with the Baldwin Locomotive Works, and six units of 1,500-hp. each for freight service, placed with the American Locomotive Company.

The Atchison, Topeka & Santa Fe has ordered one 6,000-h.p. Diesel-electric passenger locomotive from Fairbanks-Morse & Co.

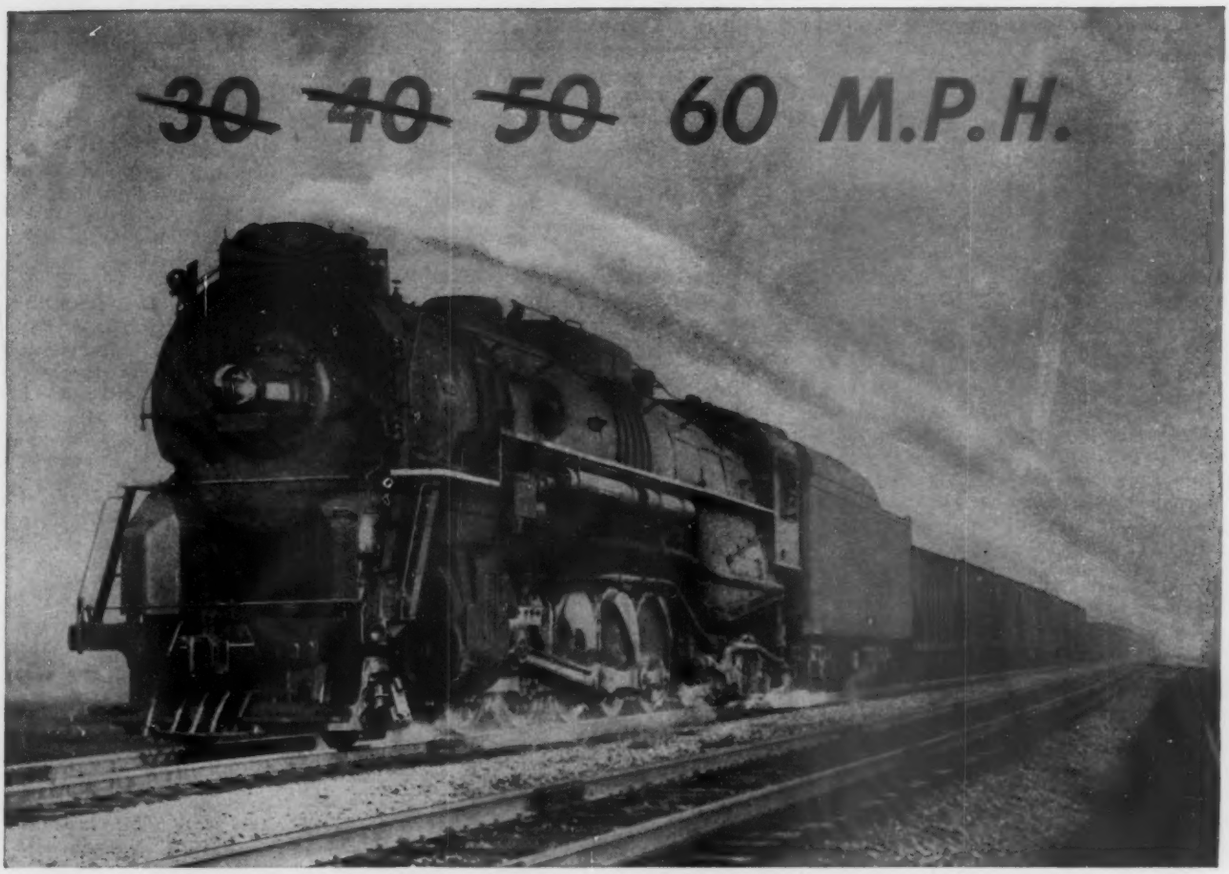
FREIGHT CARS

Southern Buys 2,000 Freight Cars

The Southern has placed orders for 2,000 new freight cars, at a total estimated cost of about $8,000,000. Construction of the new cars is expected to begin in the last quarter of this year.

The cars consist of 1,000 50-ton steel sheathed box cars, to be built by the Pullman-Standard Car Manufacturing Company at Bessemer, Ala.; 600 50-ton steel low-side gondolas, to be built at the Mt. Vernon, Ill., plant of the Pressed Steel Car Company; 250 70-ton steel ballast cars, to be built by the American Car & Foundry

News Department continued on next left-hand page



Constantly Increasing Speed of Operation

means that to meet faster schedules, *train tonnage must be reduced.*

OR – to maintain those schedules with the same train load, *locomotive horsepower must be increased.*

THE FRANKLIN SYSTEM of STEAM DISTRIBUTION

will provide additional horsepower at the higher speed.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

Company at Madison, Ill.; and 150 70-ton steel covered hopper cars for hauling cement and other pulverized materials requiring protection, to be built by the Harlan & Hollingsworth Corp. at Wilmington, Del. (Inquiry for these cars was reported in the *Railway Age* of April 13, page 788.)

Other new rolling stock on order includes 1,000 50-ton steel automobile box cars now under construction at the Bessemer, Ala., plant of Pullman-Standard. Delivery of these cars is expected to begin early this summer.

Delivery of new Diesel-electric motive power ordered months ago has been delayed by strikes and the scarcity of materials. Ernest E. Norris, president, said that he "hopefully expected" early receipt of the new power, which includes six 4,000-hp. passenger, sixteen 6,000-hp. freight, and fourteen 1,000-hp. switcher locomotives. In addition, the railway has 40,000 tons of new rail on order, and is contemplaing the purchase of additional passenger equipment of modern construction and design.

The BETHLEHEM STEEL COMPANY is reported planning to build 100 plant cars for the company's own use.

PASSENGER CARS

Illinois Central Plans Two New Daylight Trains

The Illinois Central has completed plans for building and placing in operation two new streamliner, daylight trains to run between Chicago and St. Louis, Mo. These units will replace the road's "Green Diamond" and the "Daylight" and will be powered by Diesel-electric locomotives, 24 of which are now on order for early delivery to the Illinois Central.

According to present plans each train will consist of eight cars, the first of which has tentatively been designated as a baggage-crew lounge car. This unit will be followed by a tavern coach with a bar, three coaches, a dining car, one parlor-lounge car and one parlor-observation car.

The coaches for both trains will be built by the Pullman-Standard Car Manufacturing Company while the "specialty" cars will be made by railroad forces in the company shops.

SIGNALING

The NEW YORK, CHICAGO & ST. LOUIS has ordered signal material from the Union Switch & Signal Co., to install automatic block signaling on the Clover Leaf district between Edwardsville, Ill., Madison, Sorento and Donnellson; and between Cayuga, Ind., and Mellott. The construction work will be performed by railroad forces.

The ATCHISON, TOPEKA & SANTA FE has awarded a contract to the Union Switch & Signal Co., for all signal material involved in extending and connecting together existing automatic block signal and interlocking facilities to provide continuous centralized traffic control between Ellinor, Kan., and Eldorado, a distance of 48.9 miles. The order involves a new Style C machine to be located at Eldorado which will control the entire territory, and includes Style M-22A electric switch machines, SL-21A electric switch locks, H-5 searchlight signals, relays, rectifiers, transformers and housings. The construction work will be done by railroad forces.

Supply Trade

Electro-Motive Eastern Office Reorganized

Reorganization of the Eastern region of the Electro-Motive Division of General Motors Corporation, with headquarters at 230 Park Avenue, New York, has been announced by N. C. Dezendorf, director of sales and service.

Paul R. Turner takes over direction of the service and parts activities of the region, which formerly reported directly to the home office in LaGrange, Ill. Mr. Turner continues his responsibilities as regional sales manager. O. L. Olsen continues as eastern regional service manager, reporting to Mr. Turner. Elmo Williams is regional parts and stores representative, reporting to Mr. Turner.

"The purpose of this reorganization," Mr. Dezendorf said, "is to provide a completely integrated facility for serving the requirements of our railroad customers on all matters of sales, service and parts, and to centralize the responsibility for continued customer satisfaction with our products in the same people who are responsible for the development of new business from those same customers.

"In addition to this reorganization, we are adopting an improved method of effecting adjustments of new product warranty by authorizing our district service engineers to inspect parts involved in warranty claims at the point of failure or maintenance of the equipment, and to arrange for disposition of the parts without the necessity, in most cases, for returning them to LaGrange before credits become available. This will reduce the expense of the railroads for crating and shipping parts and will increase the speed of adjustment with greater accuracy and fairness to both parties.

"Complete facilities have now been provided at the New York office for serving all of the sales, service, and parts inquiries which may originate from customer railroads located in the Atlantic Seaboard area."

A new company, **Champion Transportation Sales, Inc.**, has been formed to handle sales of railway supplies on a national basis. The office is at 9 South Clinton street, Chicago 6, Ill.

Benjamin O'Shea, associated with the **Union Carbide & Carbon Corp.** since its formation in 1917, has retired as chairman of the board of directors. He will continue as a director and a member of the executive committee. The office of chairman of the board has been abolished with Mr. O'Shea's retirement.

Brigadier General W. C. Kabrich has joined the **Flintkote Company** as assistant director of research and is stationed at the East Rutherford, (N. J.) laboratory of the company. Recently retired from the United States Army after nearly thirty years of service, General Kabrich has long been actively associated with chemical research, development and engineering.

R. W. Clansky, vice-president and treasurer of the **Standard Forgings Corporation**, has been elected president, succeeding **George E. Van Hagen**, whose recent death is reported elsewhere in these columns. **James A. Cook**, vice-president in charge of sales, has been elevated to executive vice-president, and **G. D. Bassett**, director of purchases, has been elected vice-president in charge of purchasing. **A. M. Olson**, assistant secretary, has been promoted to treasurer and assistant secretary.

Charles I. Kraus has been appointed sales manager of the Alemite distribution division of the **Stewart-Warner Corporation. Gustave Treffeisen** has been appointed assistant sales manager.

Carl O. Wold, a vice-president of the **Caterpillar Tractor Company**, Peoria, Ill., and executive head of the Russell Grader Manufacturing Company prior to its acquisition by the Caterpillar organization in 1928, has retired. Mr. Wold was born near Rushford, Minn., and was educated at the Stoughton academy, Stoughton, Wis. From 1900 to 1906 he was affiliated with the Dollenmayer Advertising Agency, with headquarters at Minneapolis, Minn., and in February of the latter year he became one of the incorporators of the Russell firm which later became prominently identified with the manufacture and sales of road machinery. When that company was merged with Caterpillar, Mr. Wold was elected a vice-president of the parent organization.

Edward Elliot, Jr., recently released from the armed forces, has been placed in charge of the newly-opened Cleveland (Ohio) branch office of the **Pressed Steel Tank Company**, Milwaukee, Wis.

Francis M. Rich, formerly assistant works manager of the Hamilton Works of the Steel Company of Canada, Ltd., has been appointed vice-president in charge of operations of the **Kaiser Company, Inc.'s** iron and steel plant at Fontana, Calif., to succeed the late Peer D. Nielsen.

Lieut. C. R. Gustafson, U. S. N. R., has returned to the **Signode Steel Strapping Company**, Chicago, after nearly four years' leave of absence, to assume the post of manager of the recently formed railroad sales division.

Rodney Pennoyer, formerly head of the Seattle, Wash., office of the **Hyman-Michaels Company**, Chicago, has been elected vice-president and a director, with headquarters at Chicago. **Frank J. Sheldon**, controller, has been promoted to controller and assistant treasurer, with headquarters as before at Chicago, and **Sidney Kelter**, assistant to the vice-president in charge of the St. Louis (Mo.) region, has been advanced to manager of that region.

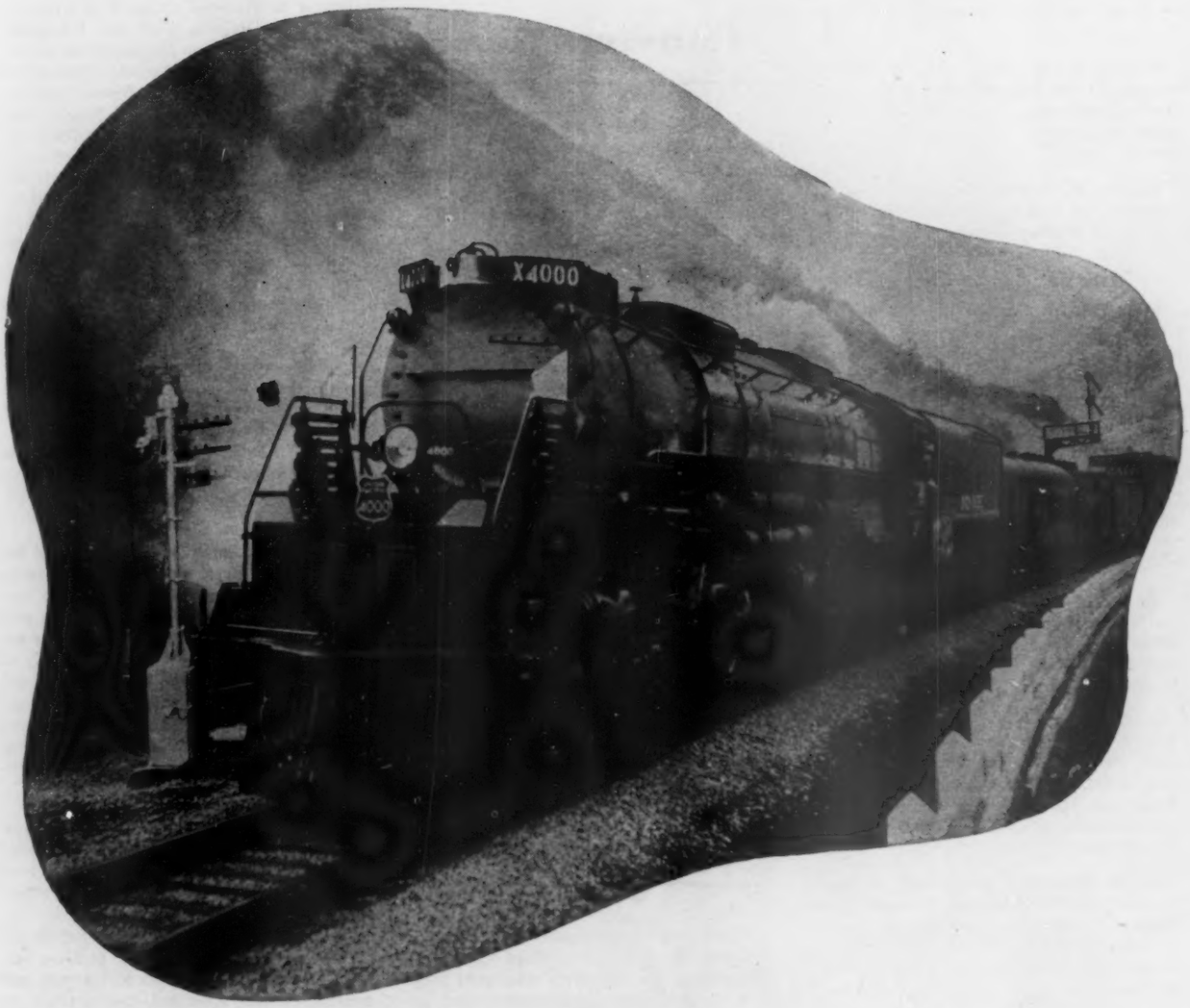
R. G. LeTourneau, Inc., of Peoria, Ill., has announced the signing of three

News Department continued on next left-hand page

for top operating efficiency

To keep the "Big Boy", as well as smaller locomotives, at top operating efficiency, a complete brick arch should be maintained in the firebox at all times, so as to develop a maximum amount of steam from the fuel burned.

For thirty-six years Security Sectional Arches have been saving fuel on all types of locomotives, and the harder a locomotive is worked, the greater the proportional fuel saving.



HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists

AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

more specialized distributors under its new railroad sales and service agreement. The signing companies, the **Smith Equipment Company,** Columbia, S. C., the **Dravo-Doyle Company,** Pittsburgh, Pa., and the **Gibson-Stewart Company,** Cleveland, Ohio, are all authorized general LeTourneau distributors in their respective areas.

John J. Paige, a member of the Storage Equipment division sales staff of the **Haskelite Manufacturing Corporation,** has been promoted to advertising manager, with headquarters as before at Grand Rapids, Mich.

Tom F. Langan has been appointed general foreman in charge of ballast cleaning equipment of the **Frank Speno Railroad Ballast Cleaning Company,** Ithaca, N. Y., with headquarters at Ithaca. Mr. Langan was formerly track supervisor on the Central of New Jersey at Jersey City, N. J.

Walter G. Mitchell, chief production engineer of the **Independent Pneumatic Tool Company,** Chicago, has been promoted to director of engineering and research.

Milton H. Smith has been appointed supervisor of fork-type lift truck engineering for the **Hyster Company.** Mr. Smith will have headquarters in the Portland, Ore., home office.

Marshall M. Smith, who recently returned from Great Britain and France, where for the past nine months he managed the operations of the British and French companies of the **E. W. Bliss Company,** has been named assistant general sales manager. Mr. Smith will be located in the company's newly established executive offices at 450 Amsterdam street, Detroit, Mich., where he will continue to supervise all Bliss export sales as well as the foreign operations at the Derby, England, and Paris, France, plants.

R. W. Stueve has been appointed general supervisor of labor relations for the **American Car & Foundry Co.** He will report directly to Frederick A. Stevenson, president.

J. C. Tyger, formerly mid-west manager for the Allen-Sherman-Hoff Company, Inc., has been appointed sales manager of the dredge and pump division of the **American Steel Dredge Company, Inc.,** with headquarters at the Chicago office of the company.

E. E. Westman has retired as president of the **Washington Veneer Company,** Olympia, Wash., which he founded 22 years ago. **Hal W. McClary,** formerly general superintendent, has been elected to the newly created post of general manager in which he will assume most of Mr. Westman's former responsibilities.

The **Ward Weller Company,** Cambridge, Mass., has been appointed New England representative of the **Pittsburgh Steel Foundry Corporation.** Ward Weller, head of the Cambridge firm, will represent both Pittsburgh Steel Foundry and its Fort Pitt castings division in the railroad, marine, heavy automotive and general machinery fields in New England. Services offered include foundry capacity for a complete range of castings, in carbon or alloy steels, from a few pounds to more than 100,000 pounds, furnished as cast or completely machined and assembled.

OBITUARY

George E. Van Hagen, president of the Standard Forgings Corporation, Chicago, died recently at Miami, Fla.

Harry Thomas Bristow, sales manager of the Safety First Shoe Company, Holliston, Mass., died on April 11.

Ross W. Hunter, for the past 47 years manager of the ticket department of Poole Bros., Inc., Chicago, died at Evanston (Ill.) Hospital on April 23. He was 67 years old.

Construction

NASHVILLE, CHATTANOOGA & ST. LOUIS.—This road has started a track improvement program, for which two contracts have been awarded and a third is pending, to be completed at a total cost of $2,053,000. The first contract has been awarded to the Oman Construction Company, Nashville, Tenn., for reduction of curvature to two degrees or less on the Chattanooga division between Chattanooga, Tenn., and Nashville. The second contract goes to the R. P. Scott Contracting Company, Chattanooga, for part of the work of reducing curves to two degrees or less on the Atlanta division. A third project now being prepared will reduce curves to two degrees or less between Memphis, Tenn., and Bruceton on the Paducah and Memphis division. A contract for this work will be awarded when the necessary survey has been completed.

PENNSYLVANIA.—This road has awarded contracts for the construction of side track facilities to reach the new plant of the Curtis Publishing Company at Academy, Pa. The award to the James McGraw Company is for two bridges, which will cost approximately $50,000, and the contract awarded to J. Armour is for grading, the approximate cost of which will be $15,000.

Financial

ALTON. — *Reorganization Expenses.* — Division 4 of the Interstate Commerce Commission has approved maximum limits of allowances for compensation and expenses in connection with this road's reorganization proceedings for the period generally from November, 1942, to February 20, 1946. The total approved is $239,631.89 on claims totaling $480,435.84. The largest amount involved was the $64,284.41 allowed on a claim of $204,284.01 by Louis Boehm and Pam, Hurd & Reichmann for services and expenses as counsel for the Stephen B. Gibbons protective committee for holders of refunding mortgage, 3 per cent bonds. That committee's claim for $24,000 for itself was rejected, while its technical adviser, Patrick B. McGinnis, was allowed $5,529.62 on a claim of $25,529.62. Perkins, Malone & Washburn and Follansbee, Shorey & Schupp, attorneys, were allowed $39,247.24 on a claim of $57,294.31 for services and expenses as counsel for stockholder committees and individual holders of Joliet & Chicago and Kansas City, St. Louis & Chicago stock. Sidney, Austin, Burgess & Harper, counsel for the Continental Illinois National Bank & Trust Company, were allowed $30,853.97 on a claim of $35,853.97; Benjamin Wham and Wham, Rose & O'Brien, counsel for the Joliet & Chicago, got $23,668.36 on a claim of $31,298.36; and Oliver & Donnally, $19,043.60 on a claim of $24,043.60 for services as counsel for the mutual savings bank group.

BOSTON & MAINE-CANADIAN PACIFIC.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has approved an arrangement under which the properties of the Connecticut & Passumpsic Rivers will be acquired by the Boston & Maine and Canadian Pacific, the former acquiring directly at a cost of $1,635,788 its portion of the Passumpsic's property, consisting chiefly of the 40.6-mile line from White River Junction, Vt., to Wells River, while the C. P. R. acquires indirectly at a cost of $3,336,212 the 68.8-mile line from Wells River to the international boundary through its purchase from Passumpsic of all the capital stock of the Newport & Richford, which is to buy the Passumpsic segment and lease it to the parent company. In approving the transactions, further details of which were given in the *Railway Age* of February 16, page 383, the commission reserved jurisdiction for four years on the matter of imposing conditions for the protection of employees who may be adversely affected.

BOWDON.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized the Bowdon Railroad & Transportation Company, organized in 1945, to acquire and operate the properties of the Bowdon Railway Company, consisting principally of a 12.06-mile line between Bowdon, Ga., and Bowdon Junction. The applicant was organized for the purpose of acquiring and operating the Bowdon Railway, which was placed in the hands of a receiver, the applicant's president, in 1943.

CENTRAL OF NEW JERSEY.—*Reorganization.*—The time within which this road must file a reorganization plan has been extended to October 30, 1946, by Federal District Judge Guy L. Fake.

Judge Fake also granted authority to the road's trustee to pay the state of New Jersey $15,250,000 in back taxes, interest, and penalties. He approved the petition of Walter P. Gardner, trustee, for permission to pay the state $11,672,311 in addition to the 03,577,689 in uncashed checks already held by the state. The checks were not cashed because the New Jersey Railroad Settlement Act, under which they were offered, was declared unconstitutional.

ERIE.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has issued a second supplemental report in

News Department continued on next left-hand page

The American Multiple-valve Throttle

...popular the World Over

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N Y
122 S. Michigan Avenue, Chicago 3, Ill

Finance Docket No. 15065, authorizing this road to issue at par $1,890,000 of promissory notes to finance in part the acquisition, under conditional sales agreements, of 700 box cars from the American Car & Foundry Company. The most favorable bid received for the notes, the 1.5 per cent rate named by the Chase National Bank, has been accepted subject to commission approval. They will be payable in 40 equal quarterly installments beginning September 1.

ILLINOIS CENTRAL.—*Purchase of Y. & M. V. Motor Rights.*—Division 4 of the Interstate Commerce Commission has dismissed an application of this road for authority to purchase the motor vehicle operating rights of the Yazoo & Mississippi Valley, a wholly owned subsidiary. The division found that authority for the purchase of the motor vehicle operating rights of the Y. & M. V. was included in Finance Docket No. 15105, decided December 13, 1945.

KANSAS CITY SOUTHERN.—*Acquisition and Refunding.*—Stockholders of this road at their yearly meeting on May 14 will be asked to vote upon the following proposals: (1) The acquisition of the Louisiana & Arkansas, the Kansas & Missouri Railway & Terminal Co., and the Kansas City Southern Transport Co., Inc., all of which are now subsidiaries of the Kansas City Southern; (2) the issuance and sale of not more than $14,000,000 additional first mortgage bonds as part of a program for refunding or retiring the outstanding Louisiana & Arkansas first mortgage 5 per cent bonds; (3) the assumption of obligation and liability with respect to $800,000 of Kansas & Missouri Railway & Terminal first mortgage bonds owned by the parent company; and (4) an amendment to reduce the authorized number of directors to 15 from 18.

MAINE CENTRAL. — *Acquisition.* — This road has applied to the Interstate Commerce Commission for authority to purchase the property and franchises of the Portland & Rumford Falls which the applicant controls through stock ownership and operates under lease. The applicant would pay $3,062,633.74 for the properties, cancel $300,000 P. & R. F. 4 per cent debentures which it holds, and assume fully and agree to pay off the outstanding $271,000 of P. & R. F. 5 per cent first mortgage bonds. James W. Maitland, a member of the boards of several public utilities, and Alfred Peck, a director of the Waldorf-Astoria Hotel in New York, were elected directors.

MARYLAND & PENNSYLVANIA.—*Payment of R. F. C. Loan.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $700,000 of series C 6 per cent first consolidated mortgage bonds, due in 1963, of which $200,000 are to be held in its treasury and $500,000 are to be pledged in connection with a loan of $200,000 from the Mercantile Trust Company of Baltimore, Md., evidenced by a 4 per cent promissory note or notes in that amount, due in 1951. In addition, $100,000 of the road's 4 per cent first mortgage bonds, due in 1951, are to be pledged. The proceeds of the bank loan will be used to retire a $200,000 loan from the Reconstruction Finance Corporation, due this year. Among securities pledged under the R. F. C. transaction are $700,000 of series B 6 per cent first consolidated mortgage bonds due in 1947, which are to be cancelled upon issuance of the series C bonds. Commissioner Miller did not participate in the proceedings.

MISSOURI-KANSAS-TEXAS — *Promissory Note.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue a $4,750,000 promissory note, to be delivered to the Republic National Bank of Dallas, Texas, which submitted the most favorable bid (1¾ per cent) for a loan of that amount. The proceeds will be used to pay the $4,750,000 balance of a loan from the Central Hanover Bank & Trust Company which is evidenced by 2-year notes. The new loan will run through 1951, being payable in 20 quarterly installments of $175,000 each beginning December 31, 1946, and ending September 30, 1951, the balance of $1,250,000 to be payable on December 31, 1951. The report also authorized the applicant to pledge and repledge from time to time $13,152,600 of prior-lien mortgage 5 per cent bonds, series E, as collateral security for the note.

NASHVILLE, CHATTANOOGA & ST. LOUIS. —*Refunding.*—This road has applied to the Interstate Commerce Commission for authority to issue $15,000,000 of first mortgage series B bonds, the proceeds of which will be used to redeem on August 1 a like amount of first mortgage series A 4 per cent bonds due in 1978. The applicant said it believes the bonds, to be dated January 1, 1946, and to mature February 1, 1986, can be sold at the maximum interest rate of 3 per cent. At the same time, the Louisville & Nashville applied to the commission for authority to asume liability as guarantor of the proposed issue.

NASHVILLE, CHATTANOOGA & ST. LOUIS. —*Annual Report.*—Operating revenues of this road for 1945 totaled $37,629,499, compared with $42,609,752 in the preceding year. Operating expenses were $35,249,022, compared with $32,266,927. Net income was $1,838,970, compared with $2,342,433. Current assets amounted to $18,826,726, compared with $18,739,669. Current liabilities were $5,269,193, compared with $10,473,102.

SOUTHERN PACIFIC.—*T. & N. O. Refunding.*—The Texas & New Orleans and the Southern Pacific Company has filed with the Interstate Commerce Commission a joint application, seeking authority for the former to issue $80,000,000 of first and refunding mortgage bonds for which the latter would assume liability as guarantor. The total issue would include $15,000,000 of series B bonds, due April 1, 1970, $45,000,000 of series C, due April 1, 1990, and $20,000,000 of series D, also due April 1, 1990. The B's and C's would be sold on the basis of competitive bids with the interest rates named by the successful bidders, and the D's would be purchased by the Southern Pacific Company at the price which the C's bring in the competitive bidding market. All proceeds from sale of the B's and C's and $4,255,000 of the D proceeds would be applied to the redemption on July 1 of 4½ per cent series A bonds due January 1, 1947, which were issued under the same mortgage and are outstanding in the amount of $64,255,000, of which the Southern Pacific Company holds $63,235,000. Remaining funds realized from sale of the D's will be applied as follows: $4,728,000 to redeem Galveston, Harrisburg & San Antonio first mortgage, Eastern division, 6 per cent gold bonds; $1,000,000 to redeem G. H. & S. A., Eastern division, 7 per cent (reduced to 6 per cent) second mortgage gold bonds; $1,000,000 to redeem G. H. & S. A. Galveston-Victoria division first mortgage, 6 per cent gold bonds; $450,000 to redeem Houston & Texas Central Lampasas extension, first mortgage, 5 per cent gold bonds; and $8,567,000 to reimburse the T. & N. O. for capital expenditures. Meanwhile the application stated that the Southern Pacific Company proposes to apply the funds it receives from the redemption of its series A holdings to the purchase of the D's; to the redemption on September 1 of its own 4½ per cent gold bonds, due March 1, 1968, and outstanding in the amount of $28,900,000; and to advances to the Central Pacific for use by the latter to redeem on August 1 its 5 per cent guaranteed gold bonds, due August 1, 1960, and outstanding in the amount of $34,000,000. The application further stated that the refunding will leave but one mortgage on T. & N. O. properties, the proposed issue and sale of the bonds being the "culmination of a program for the consolidation of Southern Pacific Company controlled lines in Texas and Louisiana, formerly in 14 separate corporate ownerships."

NEW YORK, CHICAGO & ST. LOUIS.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $41,500,000 of 3 per cent 40-year refunding mortgage bonds, series F, to be sold at 101.529 and accrued interest, the bid of a group headed by Halsey Stuart & Company, Inc. The proceeds with other funds will be applied to the redemption on July 1 at 105½ of $41,796,000 of 3¼ per cent refunding mortgage bonds, series D, due in 1975.

YREKA WESTERN.—*Receiver's Certificates and Note.*—The receiver of this road has applied to the Interstate Commerce Commission for authority to issue receiver's certificates in the amount of $11,000 and a $6,000 receiver's note. The former amount is the unpaid balance on certificates authorized by the court but not covered by I. C. C. authorization since the applicant "did not at the time recall or have in mind" the requirements of the Interstate Commerce Act's section 20a.

Dividends Declared

Cleveland & Pittsburgh.—7% Gtr., 87½¢, also Sp. Gtd., both quarterly, both payable June 1 to holders of record May 10.

International Railways of Central America.—5% preferred, accumulative, $1.25, payable May 15 to holders of record May 6.

Nashville Chattanooga & St. Louis.—$1.00, payable June 1 to holders of record May 9.

Norfolk & Western.—Quarterly, $2.50, payable June 10 to holders of record May 15.

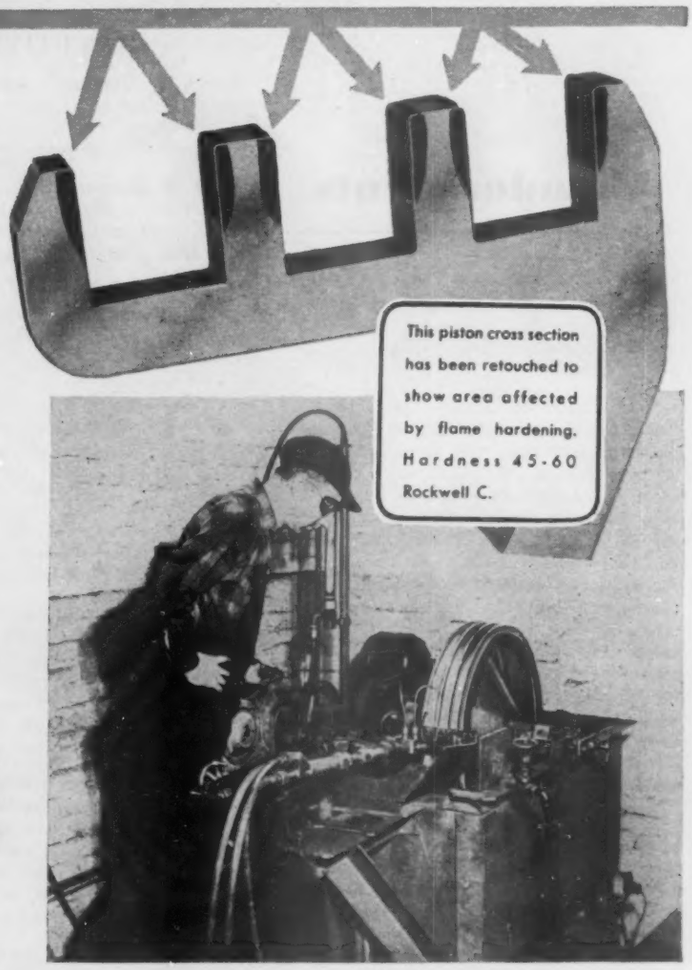
News Department continued on next left-hand page

FLAME HARDENING

AT POINTS OF GREATEST WEAR

INCREASES THE LIFE OF

HUNT-SPILLER LIGHT-WEIGHT ALLOY STEEL PISTONS



Machine used for flame hardening operation.

PACKING rings "rocking" in worn grooves wear unevenly, move rapidly. Destroyed cylinder efficiency is a quick and certain result.

To prevent this condition, Hunt-Spiller Light Weight Pistons have scientifically flame hardened ring groove walls. As a consequence their life and efficiency are increased many times over that of untreated pistons. Just one more reason for specifying pistons from the makers of HUNT-SPILLER GUN IRON — the traditionally high quality material for vital locomotive parts.

A completely finished Hunt-Spiller Light Weight Piston, ready for a long life of service.

HUNT-SPILLER MFG. CORPORATION
383 Dorchester Avenue Boston 27, Mass.

HUNT-SPILLER

LIGHT WEIGHT
STEEL PISTONS AND VALVES
DUPLEX SECTIONAL PACKING
AIR FURNACE GUN IRON

Reading.—4%, non-cumulative, 1st preferred, quarterly, 50¢, payable June 13 to holders of record May 23.

Southern—Quarterly, 75¢, payable June 15 to holders of record May 15.

Average Prices Stocks and Bonds

	Apr. 30	Last week	Last year
Average price of 20 representative railway stocks	63.48	63.69	54.31
Average price of 20 representative railway bonds	100.91	101.83	98.59

Abandonments

NEW YORK CENTRAL.—This road has applied to the Interstate Commerce Commission for authority to abandon its 2.4-mile line between Dolgeville, N. Y., and Salisbury Center.

SALT LAKE & UTAH.—The Interstate Commerce Commission, Division 4, has conditionally authorized this road and its receiver to abandon its entire line extending from Salt Lake City, Utah, to Payson, 66 miles, with a branch from Granger to Magna, 9.2 miles. The condition is that the applicant sell the line, or any portion thereof, to any railroad company offering to purchase it for continued operation at a price not less than the fair net salvage value. The abandonment certificate will be effective 40 days from its date to allow time for offers on the foregoing basis. Meanwhile, the commission adhered to its policy in cases where abandonment of an entire line is involved and refused to impose labor-protection conditions.

ST. LOUIS-SAN FRANCISCO.—Making his proposed report after further hearing in Finance Docket No.13609, which was reopened on the question of whether conditions should be imposed for the protection of employees who may have been adversely affected by this road's abandonment in 1942 of its 91.2-mile line between McNair, Ark., and Dills, Examiner Jerome K. Lyle has recommended that Division 4 of the Interstate Commerce Commission impose the same conditions as were prescribed in the precedent-setting Burlington case, 257 I. C. C. 700. In reaching this conclusion the examiner rejected the railroad's contention, among others, that the Burlington case provided a guide for dealing with prospective future losses to employees whereas in the present case such losses as may be expected to occur have already occurred; and "facts sustaining such loss and damage should be presented in the same manner as in a reparation case and proof made on the basis of actual damages, not damages along theoretical lines." The examiner's recommended finding on the point was that "it is not this commission's function to award specific damages in a case of this character, and that upon a showing of adverse effects upon employees past or prospective its duty is fully discharged when it prescribes conditions indicating the type of injury for which the employee is entitled to relief, the extent of the protection to be afforded in connection therewith, and the formula to be followed in making the final determinations with respect thereto."

Railway Officers

EXECUTIVE

Frank G. Cronin, assistant vice-president, traffic, of the Chicago, Indianapolis & Louisville, with headquarters at Chicago, has retired after 47 years of service.

Fred W. Johnson, recently discharged from the U. S. Navy, has been appointed executive general agent of the Gulf, Mobile & Ohio, with headquarters at Jackson, Miss.

M. V. Beckstedt, general traffic manager of the Delaware & Hudson, has been appointed vice-president in charge of traffic, with headquarters as before at Albany, N. Y., succeeding the late **J. E. Roberts,** whose biography and photograph appeared in the April 27 issue of *Railway Age*.

J. A. Russell, general real estate agent of the Pennsylvania, has been appointed assistant to the vice-president in charge of real estate, purchases and insurance, with headquarters at Philadelphia, Pa.

Robert W. Purcell, vice-president and general counsel of the Chesapeake & Ohio at Cleveland, Ohio, has been appointed vice-president—law. Mr. Purcell continues in the posts of vice-president and general counsel of the New York, Chicago & St. Louis.

L. H. Skinner, general purchasing agent for the Southern at Washington, D. C., has been named assistant vice-president there, effective June 1, succeeding **C. B. Bryant,** who has resigned to become chief engineer, technical board, of the Wrought Steel Wheel Industry, at Chicago.

George A. Kelly, whose election to executive vice-president of the Pullman Company, with headquarters at Chicago, was reported in the *Railway Age* of April 27, was born at Ottawa, Ill., on May 12, 1886, and was educated in law at the

George A. Kelly

University of Michigan. He was admitted to the bar in 1908, and subsequently became connected with the law firm of Winston, Payne, Strawn & Shaw at Chicago. Mr. Kelly entered the service of the Pullman Company in 1920 as a solicitor, later being advanced to general solicitor. In June, 1934, he was elected to vice-president in charge of public relations and advertising, the position he held at the time of his new promotion.

W. K. Tate, whose promotion to vice-president, traffic, of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., was reported in the *Railway Age* of April 27, was born at Tyler, Tex., on January 13, 1898, and attended Vanderbilt University. He entered railway service on March 13, 1917, with the N. C. & St. L. as a draftsman in the engineering department, later serving as instrumentman and topographer on a survey party. On January 1, 1918, he was advanced to assistant division engineer on the Huntsville division, with headquarters at Tullahoma, Tenn., holding this position until October 1, 1918, when he volunteered for service in the United States Army, serving at the Officers Training

W. K. Tate

Camp at Fort Monroe, Va. On December 1, 1918, he returned to his former position with the N. C. & St. L. at Tullahoma and on March 16, 1929, he was promoted to industrial engineer in the industrial and public relations division of the traffic department, with headquarters at Nashville. On January 1, 1935, he was placed in charge of the industrial and public relations division, with the same title and in the spring of 1936 he was appointed assistant to the vice-president and traffic manager. Mr. Tate was further advanced to assistant to the president, with headquarters as before at Nashville, in August, 1937, holding that position until October 1, 1939, when he was promoted to assistant vice-president, traffic, the position he held at the time of his new appointment.

Charles Barham, whose retirement as vice-president, traffic, of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., was reported in the *Railway Age* of April 27, was born at Goldsboro, N. C., on April 16, 1867, and entered railway service 20 years later as a stenographer in the office of the general claim and forwarding agent of the Richmond & Danville (now part of the Southern) at West Point, Va. In 1890 he became a stenographer to the commissioner

News Department continued on next left-hand page

Depth Hardened

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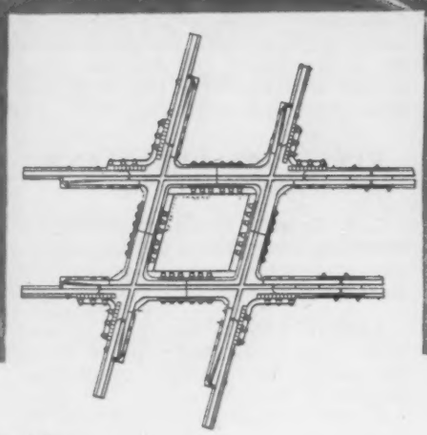
CROSSINGS



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of the Associated Railways of Virginia and the Carolinas at Richmond, Va. He served as soliciting freight agent for the Southern at Richmond and at New York from 1895 to 1897 when he was appointed chief clerk to the general freight agent at Norfolk, Va. For the next nine years he was successively foreign freight agent for the Southern at Norfolk, chief clerk to the traffic manager of the N. C. & St. L., at Nashville and assistant general freight agent of that railroad at the same point. Mr. Barham was promoted to general freight agent of the N. C. & St. L., with headquarters at Nashville, in September, 1906, being appointed traffic manager for the southeastern states under the United States Food Administration at Atlanta in March, 1918. Two years later he returned to the N. C. & St. L. as general freight agent, resigning in 1922 to become chairman of the Southern Freight Association. Six years later he returned to the N. C. & St. L. as vice-president and traffic manager, this title later being changed to that which he held at the time of his retirement.

FINANCIAL, LEGAL AND ACCOUNTING

C. J. Cooney, special assistant to the controller of the Illinois Central, at Chicago, has been promoted to assistant freight claim agent, with the same headquarters.

Louis J. Carruthers, general attorney of the Long Island, has been appointed to that post for the Pennsylvania, with headquarters at New York. Mr. Carruthers will continue to perform his duties for the Long Island.

Frank Wilhelm has been appointed general paymaster of the Baltimore & Ohio, with headquarters at Baltimore, Md., succeeding **P. C. Swein,** who has elected to retire after 56 years' service.

Joseph C. Kauffman and **Horace L. Walker,** general attorneys for the Chesapeake & Ohio at Cleveland, Ohio, and Richmond, Va., respectively, have been appointed general counsel, with headquarters unchanged.

Archibald M. Knowles, a member of the legal staff of the Boston & Maine, has been appointed general attorney of the Maine Central, with headquarters at Portland, Me.

Louis J. Rheault, cashier of the Northern Pacific at St. Paul, Minn., has been promoted to assistant treasurer, with the same headquarters, succeeding **George H. Kernkamp,** who has retired after 54 years of service.

J. A. Ridgely, general superintendent of the Southern division of the Pennsylvania, with headquarters at Wilmington, Del., has been appointed general real estate agent at Philadelphia, Pa., succeeding **J. A. Russell,** whose advancement to assistant to the vice-president in charge of real estate, purchases and insurance, is announced elsewhere in these columns. **R. J. Littlefield,** superintendent of motor service, has been named general tax agent.

OPERATING

A. M. Martin, trainmaster-road foreman of engines of the Chicago, Indianapolis & Louisville, with headquarters at Lafayette, Ind., has retired after 52 years of service with the Monon.

R. C. Bishop, assistant terminal trainmaster on the Chesapeake & Ohio, Toledo terminal, at Walbridge, Ohio, has been promoted to terminal trainmaster, with the same headquarters, succeeding **O. K. Lawson,** who has been appointed assistant chief of personnel, with headquarters at Richmond, Va.

V. C. Shelley, assistant trainmaster of the Illinois Central at Freeport, Ill., has been promoted to trainmaster, with headquarters at LaSalle, Ill., succeeding **G. O. Armstrong,** who has been transferred to Clinton, Ill., where he replaces **R. C. Evans,** who has been relieved at his own request.

Paul T. Moran, whose promotion to superintendent of the Gary division of the Elgin, Joliet & Eastern, with headquarters at Gary, Ind., was reported in the *Railway Age* of April 27, was born at Chicago and entered railway service as a clerk on the Atchison, Topeka & Santa Fe, subsequently serving as telegraph operator and agent at various points on the road. In August, 1920, he went with the E. J. & E., as a telegraph operator and in the same year he was promoted to relief agent on the Joliet division. On May 15, 1926, Mr. Moran was advanced to dispatcher and on March 7, 1940, he was further advanced to transportation inspector, system. On July 1, 1941, he became trainmaster on the Joliet division, and on July 1, 1944, he was promoted to assistant superintendent of the Gary division, the position he held at the time of his new appointment.

William J. Sloan, whose retirement as superintendent of the Gary division of the Elgin, Joliet & Eastern, with headquarters at Gary, Ind., was reported in the *Railway Age* of April 27, entered railway service on March 5, 1912, as a switchman at the Gary (Ind.) mill yard. In October, 1914, he was promoted to assistant yardmaster, with the same headquarters, and on August 1, 1928, he was advanced to assistant general yardmaster. On December 17, 1939, Mr. Sloan became general yardmaster at the Gary mill yard, and four years later he was promoted to assistant superintendent of the Gary division. On July 1, 1944, he was advanced to the position he held at the time of his retirement.

Clare I. Clugh, master mechanic for the Pittsburgh, Conemaugh, and Monongahela divisions, with headquarters at Pitcairn, Pa., has been appointed to succeed Mr. Harris as superintendent at Logansport.

Lowell White, general superintendent telegraph and mail traffic for the Atlantic Coast Line, with headquarters at Wilmington, N. C., retired from service on April 30. Mr. White was born at Burlington, Iowa, on May 14, 1880, and was graduated from Harvard University (B. A., 1903). He entered railroading in 1903 with the Chicago, Burlington & Quincy, and subsequently held posts in the auditing and purchasing departments of the Wabash, the Wheeling & Lake Erie, the St. Louis, Brownsville & Mexico, and the St. Louis-San Francisco until 1914, when he joined the Atlantic Coast Line as special agent in the office of the president. Mr. White was advanced to assistant to general superintendent transportation in 1915, to superintendent of the Norfolk district at Norfolk, Va., in 1917, and to superintendent of the first division at Rocky Mount, N. C., in May, 1918. In September, 1918, he was promoted to superintendent transportation for the A. C. L. system, with headquarters at Wilmington, where he became general superintendent telegraph, mail and express traffic in 1927, maintaining the latter post until 1933, when his title became general superintendent telegraph and mail traffic.

TRAFFIC

R. F. Woody, special representative of the general freight agent, Seaboard Air Line, has been appointed assistant to the freight traffic manager at Norfolk, Va.

Harold R. Olson, general agent for the Green Bay & Western, has been appointed general eastern agent at New York, N. Y., succeeding **John A. Moore,** who has retired.

James D. Wilson has been appointed district freight agent for the Southern and the Carolina & Northwestern, with headquarters at Hickory, N. C., and has charge of sales and service matters for the Carolina & Northwestern.

William H. A. Turner, general agent of the Missouri Pacific, at Philadelphia, Pa., has been promoted to general freight and passenger agent, with headquarters at Kansas City, Mo. **R. S. Crossman** has been appointed general agent at Philadelphia, succeeding Mr. Turner.

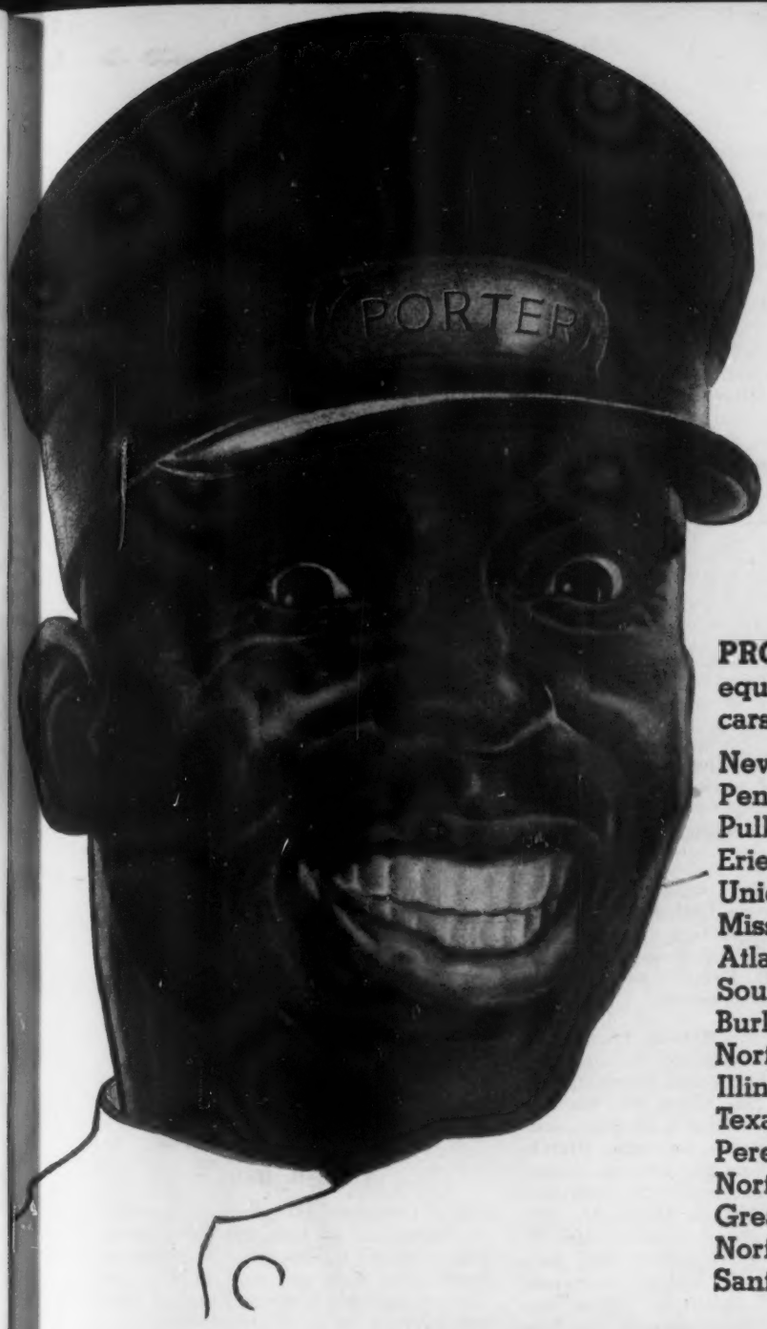
J. A. Wilson, assistant to the freight traffic manager of the Seaboard Air Line, with headquarters at Norfolk, Va., has been appointed assistant general freight agent there, succeeding the late **W. M. Andrews.**

L. D. Curtis, formerly general agent of the Belt Railway of Chicago at San Francisco, Cal., and recently released from the armed forces, has returned to the Belt and has been promoted to general freight agent, with headquarters at Chicago, a newly-created position.

H. M. Cox has been appointed general agent, passenger department, of the Denver & Rio Grande Western, with headquarters at Denver, Colo., relieving **E. K. West,** who has been appointed acting general agent at Denver, succeeding to the duties of **M. J. O'Neil,** who has been granted a leave of absence due to illness.

George B. Miller, district freight agent of the Southern, with headquarters at Durham, N. C., has been appointed general agent, freight and passenger departments, at Savannah, Ga., succeeding **J. E. Dixon,** who has retired. **Gordon I. Russell** has been named to succeed Mr. Miller as district freight agent at Durham.

News Department continued on next left-hand page



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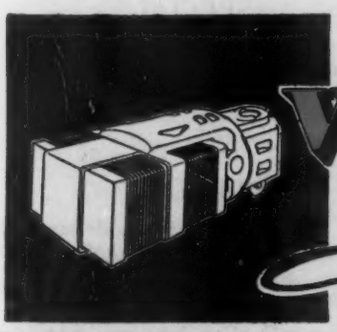

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Lester L. Sargent, recently returned from military service, has been appointed to his former post as district passenger agent of the Louisville & Nashville and the Nashville, Chattanooga & St. Louis, with headquarters at Miami, Fla. **J. W. Chaney,** who occupied the position of district passenger agent at Miami during Mr. Sargent's absence, has returned to his former post as city passenger agent there.

Arthur P. Lait, general agent, passenger department, for the Canadian National, with headquarters at Washington, D. C., has been appointed general eastern passenger agent at New York, succeeding **George L. Bryson,** who has been named passenger traffic manager for the Canadian National-Grand Trunk system at Chicago. **C. V. Howick,** general agent of the passenger department at Buffalo, N. Y., succeeds Mr. Lait as general agent at Washington, while **R. G. Evans,** traveling passenger agent at Cincinnati, Ohio, has been appointed general agent at Buffalo. **F. S. Benoliel,** city passenger agent at Chicago, replaces Mr. Evans at Cincinnati.

J. N. Hunt, assistant general freight agent of the Chicago, Rock Island & Pacific at Des Moines, Iowa, has been promoted to general freight agent, with headquarters at Chicago. **L. L. Thoms,** general agent at Washington, D. C., has been advanced to general freight agent, with headquarters at Chicago, and **J. C. Johnson,** district freight representative, has been promoted to general agent, with headquarters as before at Washington, succeeding Mr. Thoms. **C. N. Packard, Jr.,** general agent at Pittsburgh, Pa., has been advanced to general freight agent, with headquarters at Chicago. **J. O. Morgan,** general agent at St. Joseph, Mo., has been transferred to Pittsburgh, relieving Mr. Packard, and **Frank E. Quick,** assistant general freight agent at Chicago, has been transferred to Des Moines, replacing Mr. Hunt.

James R. Moriarty, Glenn Eddie and **George Gilman,** assistant passenger traffic managers of the Atchison, Topeka & Santa Fe at Chicago, have been promoted to assistant general passenger traffic managers, with the same headquarters. Other passenger traffic personnel changes made at the same time are as follows: **R. T. Anderson,** general passenger agent at Topeka, Kan., advanced to passenger traffic manager, with the same headquarters. **F. L. Sturges,** assistant general passenger agent, promoted to general passenger agent, with headquarters as before at Topeka, relieving Mr. Anderson. **C. C. Thompson,** general passenger agent at Los Angeles, Cal., advanced to passenger traffic manager, with the same headquarters, and **Ross E. Chappell,** assistant general passenger agent, promoted to general passenger agent at Los Angeles, succeeding Mr. Thompson. **R. C. Horner,** division passenger agent, becomes general agent, with headquarters as before at Los Angeles, and is succeeded by **Frank T. Rice,** formerly city passenger agent at Los Angeles. **A. C. Ater,** general passenger agent at Galveston, Tex., has been advanced to passenger traffic manager, with the same headquarters. **L. R. Everett,** assistant general passenger agent at San Francisco, Cal., has been promoted to western general passenger agent, with the same headquarters. **Harris W. Beck,** special passenger agent at San Francisco, has been advanced to assistant general passenger agent, relieving Mr. Everett. **W. P. Riggs** and **S. M. Sullivan,** division passenger agents at Hollywood, Cal., and San Diego, respectively, have been advanced to general agents, with the same headquarters. **O. M. Oliver,** assistant general passenger agent, has been promoted to general passenger agent, with headquarters as before at Amarillo, Tex.

ENGINEERING & SIGNALING

C. E. Ekberg has been appointed bridge engineer on the Northern Pacific, with headquarters at St. Paul, Minn., succeeding **R. R. Brockway,** who has retired.

Theodore Morris, engineer of water service of the Pennsylvania, has been appointed manager of water service, with headquarters as before at Philadelphia, Pa.

James W. Cummings has been appointed supervisor of work equipment for the Delaware & Hudson, with headquarters at Albany, N. Y., succeeding the late **Joseph J. Pariseau.**

W. W. Greiner, engineer of maintenance of way on the Gulf, Mobile & Ohio, at Mobile, Ala., has been appointed chief engineer, with the same headquarters, succeeding **L. P. O. Exley,** who has retired after 46 years of service.

Fletcher E. MacArthur, Jr., foreman in charge of all telephone and signal installations on the Central Vermont, with headquarters at St. Albans, Vt., has been appointed superintendent of telegraph, with the same headquarters, succeeding **Fletcher E. MacArthur, Sr.,** who has retired.

Fletcher E. MacArthur, Sr., was born at St. Albans, Vt., on March 17, 1879, and entered railway service with the Central Vermont on July 1, 1895, as a messenger boy and student telegrapher. On June 1, 1898, he left the Central Vermont to enter the service of the New England Telephone & Telegraph Company, where he served as telephone inspector and foreman until June 1, 1910, at which time he returned to the Central Vermont as foreman in the telegraph department. On June 15, 1928, Mr. MacArthur was promoted to the position he held at the time of his retirement.

MECHANICAL

W. A. Slater, draftsman for the Canadian National, has been named mechanical inspector for the Atlantic region, with headquarters as before at Moncton, N. B.

Hugh H. Young, superintendent of car shop of the Illinois Central, at Centralia, Ill., has been promoted to superintendent of the car department, system, with headquarters at Chicago. **W. C. Meyer,** assistant general car foreman at Centralia, has been advanced to superintendent of car shop, with the same headquarters, succeeding Mr. Young. **C. O. Young,** assistant to the superintendent of equipment, has been promoted to assistant superintendent of the car department, with headquarters as before at Chicago.

F. C. Ruskaup, assistant superintendent of equipment for the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Indianapolis, Ind., has been appointed assistant general superintendent of motive power and rolling stock of the New York Central, with headquarters at New York, N. Y., and **F. Thomas,** supervisor Diesel locomotive maintenance of the New York Central at New York, has been advanced to assistant to general superintendent of motive power, with the same headquarters.

Virgil R. Hasty, whose promotion to electrical engineer of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of April 13, was born at Newport, Ind., on July 10, 1886, and received his higher education at Purdue University. He entered railway service in July, 1908, as a special electrical apprentice of the Union Pacific at Omaha,

Virgil R. Hasty

and in December, 1911, he was appointed an electrician. In June, 1917, Mr. Hasty was promoted to electrician in charge of construction, shop and road work of the Eastern district, subsequently holding various positions in the electrical department until June, 1939, when he was advanced to assistant electrical engineer, with headquarters at Omaha, the position he held at the time of his new appointment.

SPECIAL

C. T. DeWitt, assistant superintendent of safety of the Northern Pacific at St. Paul, Minn., has been promoted to superintendent of safety, succeeding **W. J. Flannigan,** deceased.

OBITUARY

A. H. Anderson, chief scale inspector on the Chicago, Burlington & Quincy, at Chicago, died suddenly at Naperville, Ill., on April 25.

Edward A. Gay, who retired in 1937 as secretary and assistant treasurer of the Northern Pacific, with headquarters at New York, died on April 13 at the age of 78. He had been in railway service for 40 years at the time of his retirement.

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A
Fig. I
Fig. II
A.A.R.
5"
2"
5"
2"
5"
7

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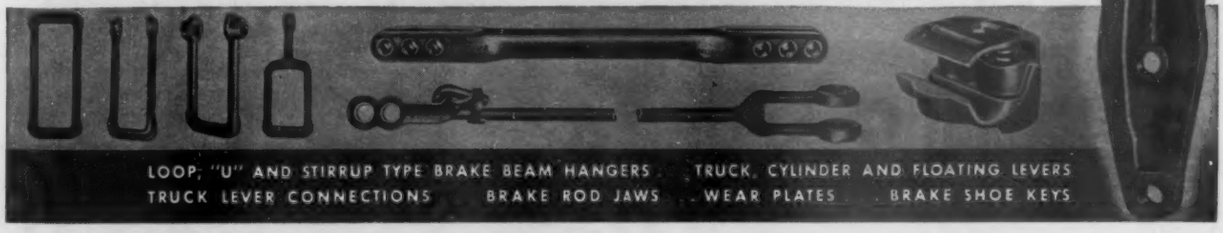
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Current Publications

Trade Publications

Buda Diesel All-Metal Cars. 16 pages. Published by the Buda Company, Harvey, Ill. Free.

This four-color booklet illustrates and describes the new line of all-metal rail cars made by this company. It covers models, construction features, floor plans with seating capacities of 6 to 64 passengers, specifications and line drawings of the various chassis in the form of blue prints. The booklets are printed in both English and Spanish.

Saxe Welded Erection System, 4 pp. Published by J. H. Williams & Co., Buffalo, N. Y.

This bulletin (No. 4) describes the advantages of this system in welded shop fabrication or for field erection of steel structures. The bulletin explains how the Saxe system works, and reproduces a number of testimonial letters from concerns which have used this system.

One Hundred Years of Transportation Progress, 16 pp., illustrations. Published by the Pennsylvania Railroad Company, Philadelphia, Pa. Free.

Reviews briefly the growth and progress of the Pennsylvania during the last century. Colored illustrations of services performed by the railroad and industries served by it are included. Believing that both stockholders and employees would be interested, it is issued as a preface to the Company's 1945 annual report, a copy of which is included.

Modern Transportation, 43 pages. Published by the Pullman-Standard Car Export Corporation, 52 Vanderbilt Ave., New York 17, N. Y. Free.

This is the English edition of Pullman-Standard's export catalog, and it contains, in color, photographs of passenger cars built for Argentina, Brazil, France, and Portuguese East Africa, and black and white prints of freight cars built for Argentina, Brazil, Chile, Colombia, Costa Rica, India, Java, Mexico, Morocco, Russia, Serbia and South Africa. Dimensions of the cars are included. In addition, some of the famous trains built for service in this country are pictured, as well as new designs of equipment produced for comfortable travel. Various types of freight cars built for Army and Navy service overseas are also illustrated.

Pamphlets

The London Midland and Scottish Railway Company; A Record of Large-Scale Organisation and Management, 1923-1946. 20 pages. No publisher given; available, presumably, from the company, Euston Station, London, England. Free.

Outlines the organization and management of the London Midland & Scottish since the amalgamation of British railways in 1923. Included are sections on the permanent way, or track, signaling, rolling stock, stores, research, and an insert containing operating statistics for the years 1923-1945, and financial statistics for the years 1923-1938.

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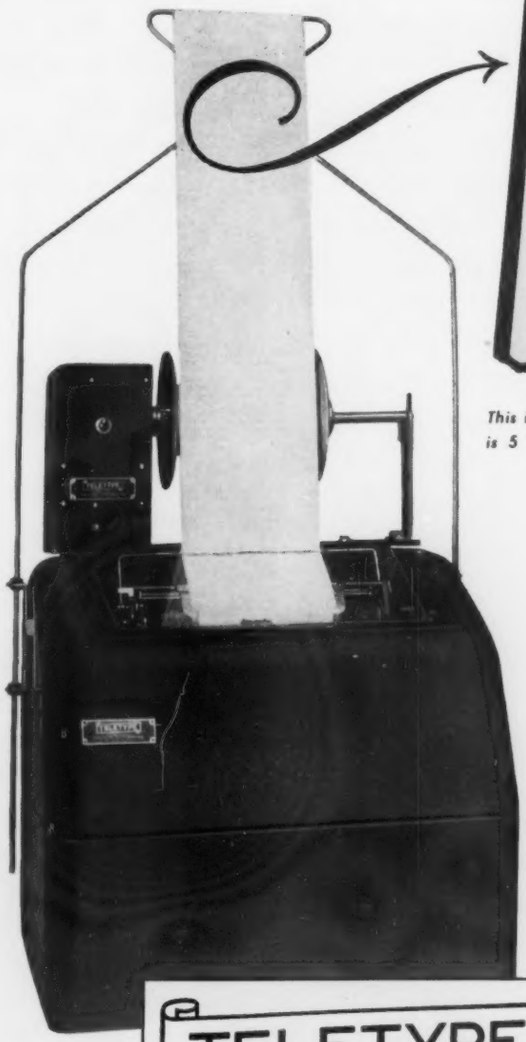

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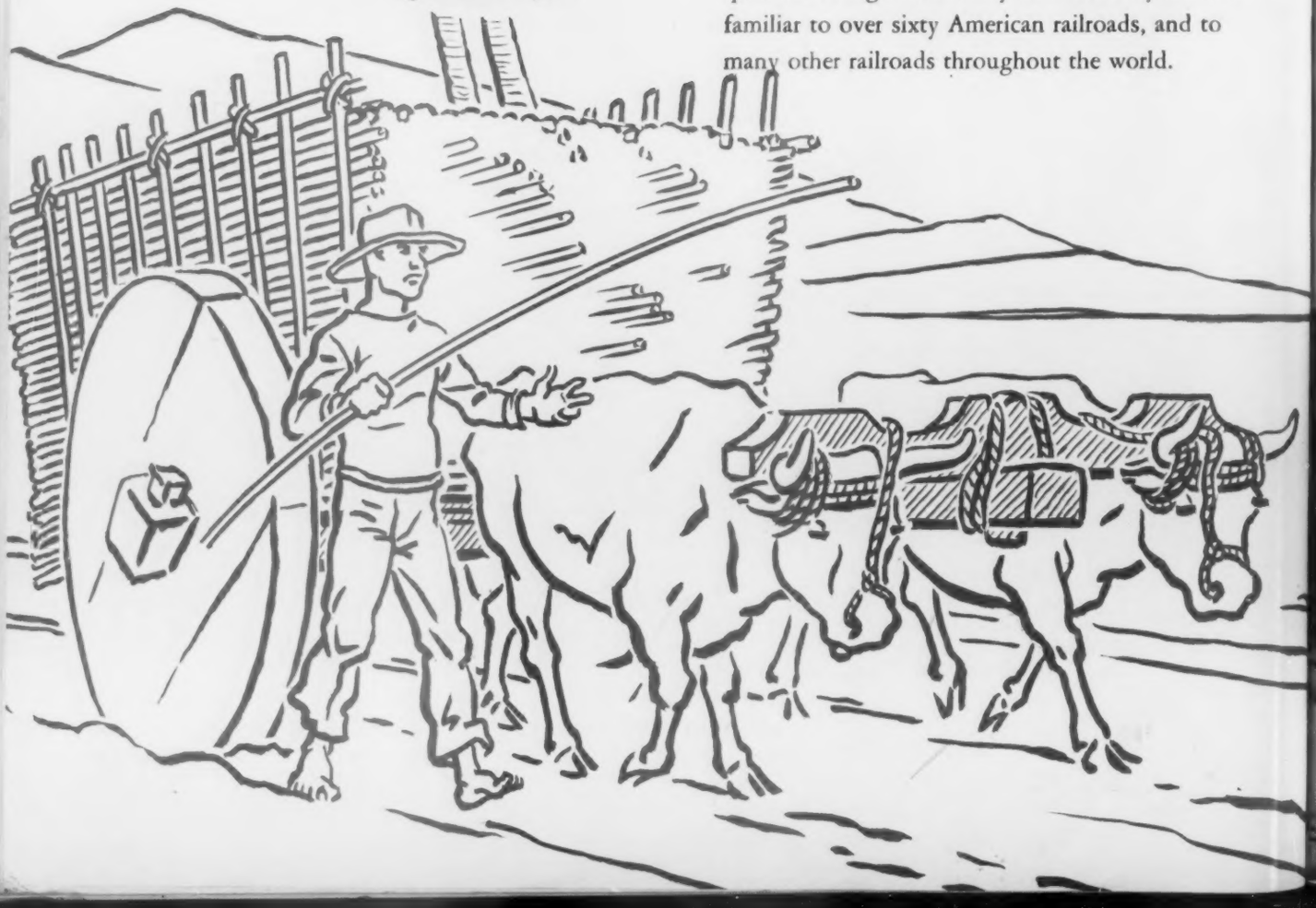

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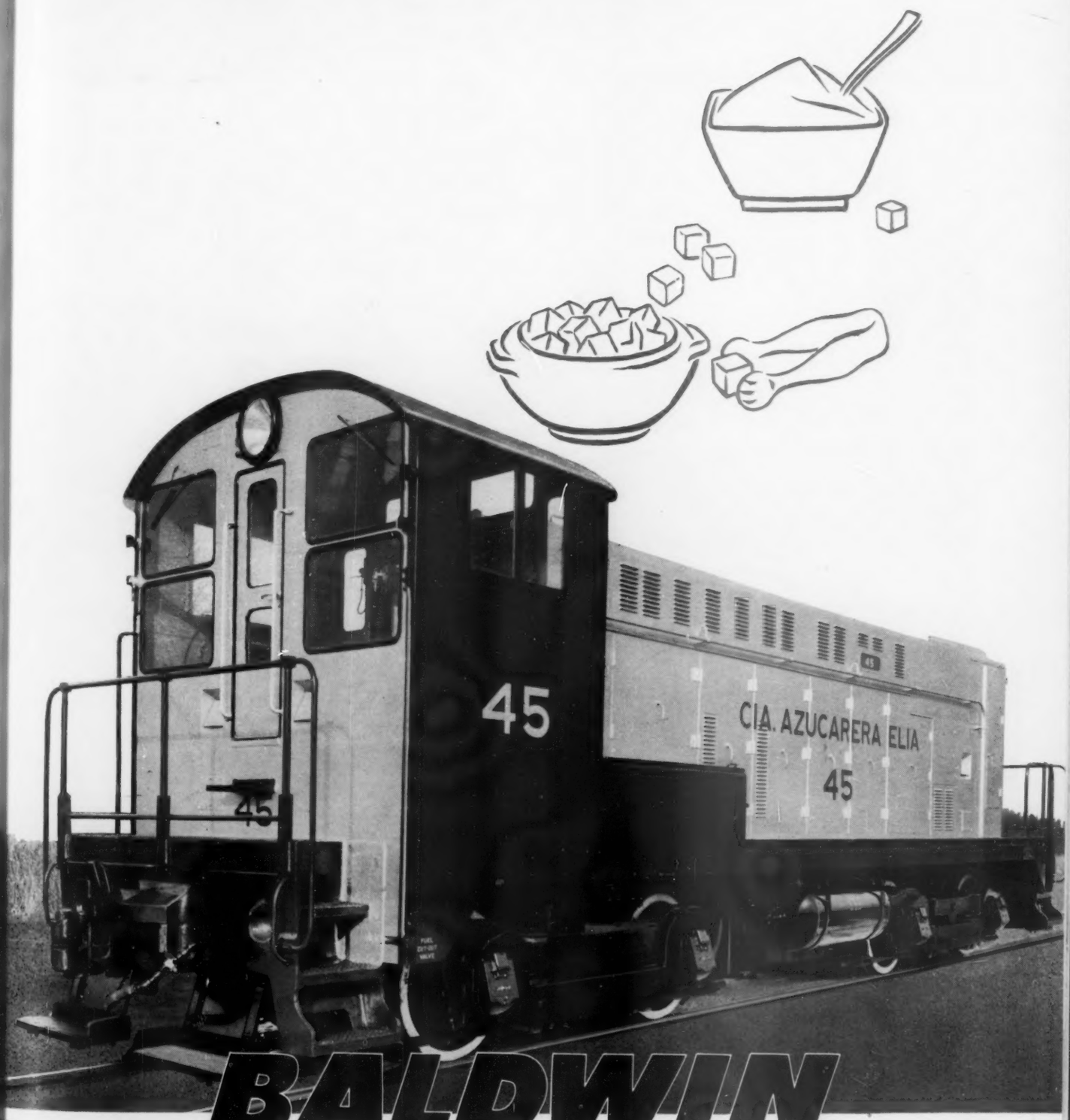

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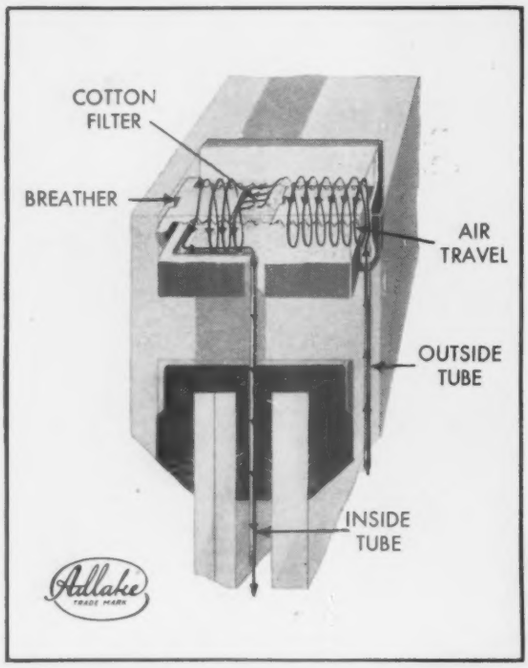

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For Advertisers' Index See Last White Page

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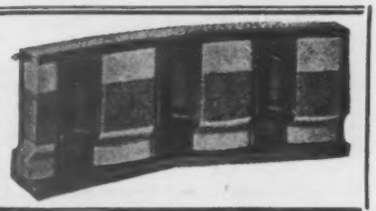

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Index to Advertisers

May 4, 1946

A

Adams & Westlake Company, The 42
Air Reduction Sales Company 44
American Arch Co., Inc. 33
American Brake Shoe Company, Ramapo Ajax Division 36
American Car and Foundry Company 12, 13
American Locomotive Company, Railway Steel-Spring Division 20, 21
American Optical Company 24
American Steel Foundries 7
American Throttle Company, Incorporated 34
Aroostook Valley Railroad Company 45

B

Baldwin Locomotive Works, The 40, 41
Baldwin Locomotive Works, The, Standard Steel Works Division 47
Bowser, Inc. 38a
Byers Co., A. M. ..... Front Cover

C

Carey Co., Inc., Thomas F. 45
Classified Advertisements 45

D

Differential Steel Car Co. 43

E

Electric Storage Battery Company, The 11
Electro-Motive Division, General Motors Corporation Back Cover

F

Fairbanks, Morse & Co. 16
Firestone Company 15
Fitzgerald Manufacturing Company, The 43
Formica Insulator Co., The 23
Frank, M. K. 45
Franklin Railway Supply Company, Inc. 32

G

General Steel Castings 8, 9
Get Together Department 45
Gunite Concrete & Construction Co. 45

H

Harbison-Walker Refractories Co. 33
Hunt-Spiller Mfg. Corporation 35

I

International Correspondence Schools 45
Iron & Steel Products, Inc. 45

K

Kennedy Car Liner & Bag Co., Inc. 43
Koppers Company, Inc., Wood Preserving Division 17

L

Lima Locomotive Works, Incorporated 31

M

Miner, Inc., W. H. 3

N

National Malleable and Steel Castings Company 14

O

Ohio Locomotive Crane Company 45
Okonite Company, The 43
Oxweld Railroad Service Company, The 2

P

Philco Corporation, Storage Battery Division 19
Pittsburgh Steel Foundry Corporation 18

R

Railway Educational Bureau, The 45
Ramapo Ajax Division, American Brake Shoe Company 36
Remington Rand, Systems Division 4
Republic Steel Corporation 6
Ryerson & Son, Inc., Joseph T. 46

S

Schaefer Equipment Company 38
Scullin Steel Co. 22
Sonken-Galamba Corporation 45
Standard Railway Equipment Mfg. Company 30
Standard Steel Works Division, The Baldwin Locomotive Works 47
Stromberg-Carlson Company 10

T

Teletype Corporation, Subsidiary of Western Electric Company 39

U

Union Carbide and Carbon Corporation 2
Union Switch & Signal Company 28

V

Vapor Car Heating Co., Inc. 43

W

Waugh Equipment Company 37
Waukesha Motor Company 25
Western Electric Company 39
Westinghouse Air Brake Company 26
Westinghouse Electric Corporation 5
Wheel Truing Brake Shoe Company 45

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FROM A METAL MAKER'S "FAMILY ALBUM"

WHEN OPEN HEARTH STEEL WAS AN INNOVATION—

"Standard" Was Doing Business at its Present Stand

This picture, drawn in 1876, shows a busy time at the pouring pits. It's possible that the metal came from one of the early open hearth furnaces, for they had recently been introduced in America.

Always a pioneer, Standard Steel quickly recognized the commercial advantage of the new steel, discontinued the operation of its crucible plant, and began to manufacture tires from open hearth steel.

Today Standard's foundry has an annual capacity of 20,000 tons, a forge shop capacity of 15,000 tons of locomotive forgings, plus 30,000 tons of heavier miscellaneous forgings.

You'll find complete facilities to handle all classes of your work promptly and accurately at Standard. To simplify your buying why not "Standardize on Standard."

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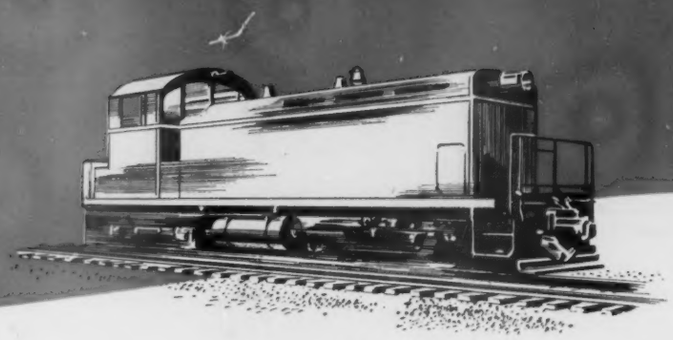
1946 PARADE OF THE VETERANS



Where Hours Make The Veteran

At what point a General Motors Diesel switcher becomes a veteran may raise a question. But there can be little doubt that when a fleet of 37 switchers in operation for over 8 years has rolled up an accumulated total of more than 2,000,000 hours of work, averaging 636 hours a month, all must have long since attained veteran status.

Following are reports on the performance of some hundred or more GM Diesel switchers in operation on four different railroads, East and West.

And so uniform is GM Diesel switcher performance that if we had reports on all roads, the figures would vary but little.

BALTIMORE & OHIO

16 – 600 H. P. General Motors Diesel switchers, operating since August and September 1940, have worked an average of

672 hours per month

and were out of service for maintenace or repairs an average of only 28 hours per month. The total number of hours that all 16 worked during the above period was 694,436 at an average availability of 96.2%.

UNION PACIFIC

36 – 1000 H. P. General Motors Diesel switchers, in operation during the year of 1945, averaged

660 hours per month

The total number of hours worked by all 36 during this period was 285,036 at an average availability of 96.3%. The accumulated total hours on all these switchers since they were put in service is 1,330,735 at an over-all average availability of 95.2%.

CHICAGO, ROCK ISLAND & PACIFIC

37 – 600 H. P. General Motors Diesel switchers, put in service at various times during the past 8 years and 8 months, have worked an average of

636 hours per month

The total number of hours worked by all 37 during this period was 2,003,080 at an average availability of 95.6%.

THE MILWAUKEE ROAD

25 – 600 H. P. General Motors Diesel switchers in operation during the first ten months of 1945, averaged

639 hours per month

During this period all 25 worked a total of 159,761 hours at an average availability of 95.6%. The number of hours worked by all 25 since being put in service was 1,046,719 at an average availability of 95.5%.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.